

Project brief on cold storage



Project Brief Project Proponent Project Address Project Cost : : : A 4, 500 MT
Cold Storage Facility CIDI-VFII, Ltd. Fishport, Tambler, GSC PHP 40, 000, 000 I

- Introduction CIDI-VFII, Ltd. is the firm's proposed name. It is a joint venture between Ramses Y. Verano of the Veres Fishing Industries, Inc. , awardee of a 5, 000 sq. m. prime lot, situated at the Fishport, Tambler, General Santos City, and Crystal Ice Depot, Inc. of Cubao, Quezon City, M. M. , which markets a Canadian-developed ice-making equipment under SUNWELL brand. With the state-of-the-art ice-making technology of Crystal Ice Depot, Inc. (CIDI), coupled with a quarter of century marketing experience of Ramses Verano in the industry, the new business duo shall certainly become a company to watch in Gensan's fast moving agri-based economy. Having been fully convinced of the viability, profitability and timely entrance of the proposed project, CIDI-VFII, Ltd. is now on its final implementation stage. The project is scheduled to begin on the 2nd week of June , 1999 (see: Annex A). Feasibility Study on Deepchill Ice Plant at the Fishport, Tambler, General Santos City - by Frank Ll. Dalapo, MBA 1 II - Projected Financial Statements covering the term of the loan

Collaterals for the proposed loan shall include the following: Table 2. 1

Collaterals	Fixed Assets to be acquired	Land Improvements	Buildings	Miscellaneous Equipments	Additional collateral	Land (7. 6 has. coco plantation)	Total Cost	753, 307 800, 000	500, 000	Loan Value	40%	40%	40%
Sub-total	301, 323 320, 000	200, 000	7, 060, 000	50 %	3, 530, 000	9, 113, 307 821, 323	Total loanable amount (Rounded off to)	PHP 4, 000, 000					

===== Based on the projected income statement, the proposed

project has an average net income of PHP 17, 587, 000 in a 5-year period operation vis-a-vis a total investment of PHP 15, 000, 000.

Feasibility Study on Deepchill Ice Plant at the Fishport, Tambler, General Santos City - by Frank Ll. Dalapo, MBA 2 Table 2. 2 Total Project Cost Equipments Refrigeration Equipment Genset Delivery Truck Sub-total Buildings Land Improvement Cooling tanks General Pre-operating Expenses Plant Pre-operating expenses Miscellaneous TOTAL PROJECT COST Exhibit PHP 11, 250, 000 100, 000 400, 000 PHP 11, 750, 000 Exhibit - C Exhibit -E Exhibit - G Exhibit-A Exhibit -B Exhibit -F 800, 000 753, 307 100, 000 336, 020 101, 785 1, 158, 888 PHP 15, 000, 000 ===== Table 2.

Sources of Fund CIDI capital VFII Capital (Loan from the Bank) Total PHP 11, 250, 000 3, 750, 000 PHP 15, 000, 000 75 % 25 % 100 % Feasibility Study on Deepchill Ice Plant at the Fishport, Tambler, General Santos City - by Frank Ll. Dalapo, MBA 3 Table 2. 4 Loan Amortization Amount of Loan Rate Term Mode Interest Number Factor Amortization Number 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 TOTAL Amortization 230, 628. 42 4, 612, 568. 40 ===== Interest 135, 000. 00 130, 696. 72 126, 199. 79 121, 500. 51 116, 589. 75 111, 458. 01 106, 095. 34 100, 491. 35 94, 635. 19 88, 515. 49 82, 120. 41 75, 453. 74 68, 470. 89 61, 173. 79 53, 548. 34 45, 579. 74 37, 252. 54 28, 550. 63 19, 457. 13 9, 954. 42 1, 612, 743. 78 ===== 3, 000, 000 18% 5 years Quarterly 4. 5 % 20 . 07687614 230, 628. 42 Principal 95, 628. 42 99, 931. 70 104, 428. 62 109,

127. 91 114, 038. 67 119, 170. 41 124, 533. 08 130, 137. 07 135, 993. 23
 142, 112. 93 148, 148. 01 155, 174. 67 162, 157. 53 169, 454. 2 177, 080.
 08 185, 048. 68 193, 375. 87 202, 077. 79 211, 171. 28 220, 673. 99 2, 999,
 825. 56 ===== o / s Balance 2, 904, 371. 58 2, 804, 439. 88 2, 700,
 011. 26 2, 590, 883. 35 2, 476, 844. 68 2, 357, 674. 27 2, 233, 141. 19 2,
 103, 004. 12 1, 967, 010. 89 1, 824, 897. 96 1, 676, 749. 95 1, 521, 575. 28
 1, 359, 417. 75 1, 189, 963. 13 1, 012, 883. 05 827, 834. 37 634, 458. 50
 432, 380. 71 221, 209. 43 535. 44 Feasibility Study on Deepchill Ice Plant at

the Fishport, Tambler, General Santos City - by Frank Ll. Dalapo, MBA 4

Table 2. 5 Financing Scheme Sources Bank loan at 18% Owners? Equity P'
 000 3, 000 12, 000

Table 2. 6 Depreciation Expense Year 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
 Equipments (P'000) 975 975 975 975 975 975 975 975 975 975 975 975 975 975
 Buildings (P'000) 53 53 53 53 53 53 53 53 53 53 53 53 53 53 Cooling
 tanks (P'000) 15 15 15 15 15 15 Total (P'000) 1, 043 1, 043 1, 043 1, 043 1,
 043 1, 043 1, 028 1, 028 1, 028 1, 028 1, 028 1, 028 53 53 53 Note: 1. Cost
 Equipments Buildings Cooling tanks Total Amount P 11, 750, 000 800, 000
 100, 000 P 12, 650, 000 ===== Depreciation % 6. 6 % P. A. 8. 3 %
 P. A. 15 % P. A 2. Life span of facilities Buildings Equipments Cooling tanks
 15 yrs. 12 yrs. 6 yrs. 3.

It is assumed that all equipments will be replaceable in year 12 at a cost of
 PHP 20, 096, 487 based on PHP 11, 750, 000, escalated at 5 % P. A.

Feasibility Study on Deepchill Ice Plant at the Fishport, Tambler, General
 Santos City - by Frank Ll. Dalapo, MBA 5 Exhibit- A GENERAL PRE-OPERATING
 EXPENSE Operating Expenses - Registration, Permits, Taxes and Lincenses P

20, 000 Legal, Financial, and Accounting Service/Advice Project Feasibility Study (1% of the total project cost) 20, 000 150, 000 Salaries during the pre-operating period Executive Staff / Key Personnel Others General expenses during the pre-operating period Office Rental (20 sq. @ P 500/sq. m.) Supplies and Communications Travelling Expenses Others Total 97, 520 10, 500 298, 020 10, 000 8, 000 10, 000 10, 000 38, 000 P 336, 020 =====

Exhibit - B PLANT PRE-OPERATING EXPENSES Salaries and Wages during the pre-operating Period To start on Nov. 1, 1998 Training of CIDI-VFII Technicians (3 persons for 1 month) Living allowances 3 at PHP 3, 500 P 10, 500 Other Expenses Plant and Building Designs Trial run expenses (for 5-day period) Materials Electricity Water Brine/Salt Others TOTAL 10, 000 20, 000 45, 990 2, 439 2, 856 10, 000 81, 285 P 101, 785 =====

Feasibility Study on Deepchill Ice Plant at the Fishport, Tambler, General Santos City - by Frank Ll. Dalapo, MBA 6 Exhibit - C Refrigeration Building BUILDINGS 10 m x 5 m (50 sq. m. @ P 5, 700 / sq. m.) PHP 285, 000 Admin Building Genset Building Guard House Cooling Tank Shed 8mx5m (40 sq. m. @ P 6, 500 / sq. m) 260, 000 9, 000 6, 000 240, 000 2mx3m (6 sq. m @ P 1, 500 / sq. m) 2mx2m (4 sq. m @ P 1, 500 / sq m) 30 m x 10 m (300 sq. m @ P 800 / sq. m) TOTAL 400 sq. m. PHP 800, 000 ===== Exhibit - D

30-day Working Capital (48 ton capacity) Consumption Rate Sub-total 35 kwh / ton / day 48 tons x 30 days = 1, 440 tons) Item Light & power P 3. 65 kwh PHP 183, 960 Water 48 tons/day (48 tons x 30 days= 1, 440 tons) 7. 26 / ton 10, 454. 40 Salt/Brine 48 tons / day (48 tons x 30 days = 1, 440) 8. 50 / ton 12, 240 PHP 206, 654. 40 ===== Total Feasibility Study on Deepchill Ice Plant at the Fishport, Tambler, General Santos City - by

Frank Ll. Dalapo, MBA 7 Exhibit - E LAND IMPROVEMENTS Perimeter fence
 Gate Water supply system including: Water distribution system Water tank
 Fire hydrants 500 sq. m @ P 150 / linear m. 8 m (width) x 5 m (length)

PHP 75, 000 15, 000 100, 000 Electrical system including: Eletrical
 distribution system Transformer Parking light 200, 000 Piping system Parking
 area pavement Landscaping Total Add: Designs and Administration - 15%
 100 sq. m @ P 1, 000 / sq. m 100, 000 100, 000 15, 000 P 595, 500 89, 325
 684, 825 68, 482 PHP 753, 307 ===== Total Add: Contingencies -
 10 % Grand Total Exhibit - F MISCELLANEOUS Salaries and Wages Working
 capital Contingencies Total (for 2- month period operation) (for 2- month
 period operation) (for 2- month period operation)

PHP 386, 447 413, 308 359, 133 PHP 1, 158, 888 =====

Feasibility Study on Deepchill Ice Plant at the Fishport, Tambler, General
 Santos City - by Frank Ll. Dalapo, MBA 8 Exhibit - G COOLING TANKS Size
 Capacity (Maximum) Medium 6, 000 kgs. / tank 9, 000 kgs. / tank Quantity
 Dimension (meter) Cost 10 3x2x1 (at P 4, 000 / tank) = 40, 000 10 3 x 2 x1.
 5 Large (at P 6, 000 / tank) = 60, 000 Total PHP 100, 000 =====

Table 2. 8 Light and power charges Guard House Building Area (KWH) (KWH)
 Year 1 2 3 4 5 Note: 1. 2. Refrigeration Equipment (KWH) Total Consumption
 (KWH)

Total Cost PHP 2, 232, 924 2, 344, 570 2, 461, 801 2, 584, 894 PHP 2, 714,
 140 960 1, 008 1, 059 1, 112 1, 168 6, 000 6, 300 6, 615 6, 946 7, 293 604,
 800 635, 040 666, 792 700, 132 735, 139 611, 760 642, 348 674, 466 708,
 190 743, 600 Power rate is P 3. 65 /kwh, escalated at 5 % per year. Power

consumption per facility is based on technical specifications. Table 2. 9

Repairs and Maintenance Expense Year Buildings Equipments 1 2 3 4 5 Note:

1. Breakdown of cost Cost 800, 000 11, 750, 000 100, 000 8, 000 8, 400 8, 820 9, 261 9, 724 117, 500 123, 375 129, 544 136, 012 142, 813 Cooling tanks 1, 000 1, 050 1, 103 1, 158 1, 216

Total 126, 500 132, 825 139, 467 146, 431 153, 753 Buildings Equipments Cooling tanks Total Maintenance % of unit cost 1. 0 % 1. 0 % 1. 0 % 1st year Maintenance 8, 000 117, 500 1, 000 PHP 125, 500 ===== 2.

Expenses are escalated at 5 % P. A. Feasibility Study on Deepchill Ice Plant at the Fishport, Tumbler, General Santos City - by Frank Ll. Dalapo, MBA 9 Projected Income Statement PROJECTED PROFIT AND LOSS STATEMENT (In thousand pesos) Reference Exh. ibits & Tables Y E A R 1 2 13, 478 21, 263 34, 741 3 13, 478 22, 326 35, 804 4 13, 478 23, 442 36, 920 5 13, 478 24, 614 38, 092

GROSS REVENUES Ice plant Cooling tanks Total Less, OPERATING EXPENSES: Salaries, wages & labor Employees Benefits / allowances Space rental Taxes, licenses & fees Repairs & maintenance Light and power Telephone & postage Office supplies Transportation / Travel Insurance Advertising & Promo Miscellaneous Depreciation Interest on loan Total NET INCOME for the year, before taxes Less, Provisions for Income taxes @ (35%) Table 3. 1

Table 3. 1 13, 478 20, 250 33, 728 Table 6. 1 Table 6. 1 Table 2. 9 Table 2. 8 Exh. F Table 2. 6 Table 2. 4 1, 502 816 300 20 127 2, 323 12 30 438 108 10 1, 159 1, 043 513 8, 401 25, 327 , 577 857 315 21 133 2, 345 13 32 460 108 8 1, 217 1, 043 435 8, 564 26, 177 1, 656 900 331 22 139 2, 462 14 34 483 108 7 1, 228 1, 043 341 8, 768 27, 036 1, 739 945 348 23 146 2, 585 15 36

507 108 6 1, 289 1, 043 229 9, 019 27, 901 1, 826 992 365 24 154 2, 714 16
 38 532 108 5 1, 353 1, 043 95 9, 262 28, 830 8, 864 9, 162 9, 463 9, 765 10,
 091 NET INCOME after taxes 16, 463 ===== 17, 015 ===== 17, 573
 ===== 18, 136 ===== 18, 739 ===== Feasibility Study on Deepchill Ice
 Plant at the Fishport, Tambler, General Santos City - by Frank Ll. Dalapo,
 MBA 10 Projected Funds Flow Statement PROJECTED CASH FLOW (In
 thousand pesos) Preoperating Year

Y E A R 1 16, 463 1, 043 2 17, 015 1, 043 3 17, 573 1, 043 4 18, 136 1, 043 5
 18, 739 1, 043 CASH INFLOW Net Income Add: Depreciation Owners? Capital
 Bank Loan TOTAL CASH INFLOW 12, 000 3, 000 15, 000 17, 506 18, 058 18,
 616 19, 179 19, 782 CASH OUTFLOW Gen. Pre-operating expense Plant pre-
 operating Expense Land Improvements Buildings Cooling tanks Main
 Machinery & Installation 336 102 753 800 100 11, 750 409 - 488 5, 022 5,
 510 12, 548 18, 256 30, 804 ===== 581 6, 904 7, 485 11, 131 30, 804 41,
 935 ===== 694 8, 589 9, 283 9, 896 41, 935 51, 831 ===== 827 10, 112
 10, 939 8, 843 51, 831 60, 674 ===== Loan Amortization(principal only)
 Dividends Paid at 15%

TOTAL CASH OUTFLOW Net Cash Balance Cash Balance, Beginning 13, 841
 1, 159 1, 159 ===== 409 17, 097 1, 159 18, 256 ===== Cash Balance,
 Ending Feasibility Study on Deepchill Ice Plant at the Fishport, Tambler,
 General Santos City - by Frank Ll. Dalapo, MBA 11 Projected Balance Sheet
 Projected Balance Sheet (In thousand pesos) Preoperating Year 1 2 ASSETS:
 Current Assets Cash Fixed Assets Land Improvements Buildings Machinery
 Cooling tanks Less : Accu. Depreciation Y E 3 A R 4 5 1, 159 18, 256 30, 804
 41, 935 51, 831 60, 674 753 800 11, 750 100 - 753 800 11, 750 100 1, 043

11, 607 753 800 11, 750 100 2, 086 10, 564 53 800 11, 750 100 3, 129 9,
521 753 800 11, 750 100 4, 172 8, 478 753 800 11, 750 100 5, 215 7, 435
Net book Intangible Asset Orgnizational Cost 438 15, 000 ===== 3, 000
12, 000 - 438 31, 054 ===== 2, 591 12, 000 16, 463 16, 463 16, 463 31,
054 ===== 438 42, 559 ===== 2, 103 12, 000 16, 463 17, 015 33, 478 5,
022 28, 456 40, 456 42, 559 ===== 438 52, 647 ===== 1, 522 12, 000
28, 456 17, 573 46, 029 6, 904 39, 125 51, 125 52, 647 ===== 438 61, 500
===== 828 12, 000 39, 125 18, 136 57, 261 8, 589 48, 672 60, 672 61,
500 ===== 438 69, 300 ===== 12, 000 48, 672 18, 739 67, 411 10, 112
57299 69, 299 69, 300 ===== Total Assets EQUITIES Loan from the Bank
Owners? quity Retained Earnings Net profit for the year Total Less: Dividend?
s Paid at 15% Net Retained Earnings Total Owners? Equity Total Equities 15,
000 ===== Feasibility Study on Deepchill Ice Plant at the Fishport, Tambler,
General Santos City - by Frank Ll. Dalapo, MBA 12 Financial analysis shows
the following: a.) Return on Investment (ROI) Year 1 2 3 4 5 Net Income 16,
463 17, 015 17, 573 18, 136 18, 739 Depreciation 1, 043 1, 043 1, 043 1,
043 1, 043 Cash Flow 17, 506 18, 058 18, 616 19, 179 19, 782 On Original
Investment = Total Cash Flow Total Project Cost/ Investment = 93, 141 15,
000 = 6. 21% On Average Investment 18, 628 7, 500 = 2. 48% b.) Payback
period / Rate of Return Payback = Total Investment Annual Return (first
year) = 15, 000, 000 17, 506, 000 = . 9 or Nine months Rate of Return =
Annual Return Total Investment = 17, 506, 000 Feasibility Study on Deepchill
Ice Plant at the Fishport, Tambler, General Santos City - by Frank Ll. Dalapo,
MBA 13 15, 000, 000 = 117 % c.) Break-even point Fixed Cost Amount (in
thousand pesos) Salaries & wages Repairs & Maintenance Insurance Light &

power Depreciation Interest on Loan Telephone & postage Office Supplies
 Taxes, Licenses & Fees Transportation Total Variable Cost Employees?

Benefits & Incentives Advestising / Promo Miscellaneous expense Total 1,
 502 127 108 2, 323 1, 043 513 12 30 20 438 6, 116 ===== 816 10 1, 159 1,
 985 ===== Break-even Point Sales in Volume Sales - 10, 385, 897 kgs. at .
 78 cents / kg. = PHP 8, 101, 000 Costs and Expenses Fixed Cost - - - - -
 - - - - - 6, 116, 000 Variable Cost - - - - -
 - - - - - 1, 985, 000 Total cost - - - - -

PHP 8, 101, 000 -0===== Note: The 10, 385, 897 kgs. break-even
 point sales volume is only 60 % of the projected sales volume of 17, 280,
 000 kgs. n first year operation. Break-even Point Selling Price (BEPSP) BEPSP
 = Total Fixed Cost + Total Variable Cost Sales Quantity 6, 116, 000 + 1, 985
 17, 280, 000 8, 101, 000 14 = = Feasibility Study on Deepchill Ice Plant at
 the Fishport, Tambler, General Santos City - by Frank Ll. Dalapo, MBA 17,
 280, 000 = PHP . 47 / kg Note: The 46 cents break-even point selling price is
 60% of the project? s selling price of . 78 cents per kilogram. In other words,
 the project shall be able to afford a 40 % price reduction in the first year
 operation before incurring a loss. III - Assumptions used in the projections .

The proposed project is assumed to have an annual production of 17, 280 MT
 or 17, 280, 000 kgs. 2. It shall be operational in November, 1998. 3. Sales
 volume shall be: Table 3. 1 Revenue Sources Year Projected Ice Sales Ice
 Demand Volume (MT) (P ' 000) Projected Fish Volume to be served (MT)
 Cooling Tank Sales Volume (P ' 000) Total (P' 000) 1 2 3 4 5 728, 676 792,
 402 856, 128 919, 854 1, 047, 306 13, 478 13, 478 13, 478 13, 478 13, 478
 264, 134 285, 376 306, 618 327, 860 349, 102 20, 250 21, 263 22, 326 23,

442 24, 614 33, 728 34, 741 35, 804 36, 920 38, 092 4. Sales price of ice shall be . 78 cents per kilogram.

While, cooling tank fee shall be . 75 cents per kilogram. 5. It is assumed that tax rates shall remain unchanged at 35% (Income Tax Rate). 6. Financing is assumed to be obtained as: Sources Bank Loan @ 18 % Owners? Equity Total P'000 3, 000 12, 000 15, 000 ===== 7. Total project cost of ice-making machine & other miscellaneous equipments is PHP 11, 750, 000. Feasibility Study on Deepchill Ice Plant at the Fishport, Tambler, General Santos City - by Frank Li. Dalapo, MBA 15 8. It is assumed that 15 % of the total retained earnings shall be declared every year thereafter. 9.

It is assumed that the average operating cost per annum shall be PHP 8, 803, 000. 10. It is assumed that depreciation charges per annum (using straight line) shall be PHP 1, 043, 000. 11. It is assumed that the estimated income from the operation per annum shall be PHP 33, 728, 000. 12. It is assumed that salaries, wages & labor shall increase at a rate of 5% per annum. 13. It is assumed that employees? benefits shall be 20% of the total salaries and wages. 14. It is assumed that light and power shall increase at a rate of 5% per annum. 15. It is assumed that miscellaneous shall be increased by 5% per annum. 16.

It is assumed that repair & maintenance shall escalate at 5% per annum. IV - Market Study In General Santos City, through the presence of the international standard Fish Port, it is assumed all of the benefits would accrue to fresh and processed fish and other agri-based products. An increased landing of fish is considered vital in putting up a commercial ice

plant that would cater to the needs of both municipal and commercial fishermen, not to mention agribased food producers/processors in the area. Inasmuch as most of the ice plant operators are commercial fishermen, most of the ice produced are for in-house consumption.

In fact presently, it was found out that out of fifty-three (53) strong members of the South Cotabato Purseiner? s Association facilities, while the rest none. (SOCOPA), only fifteen (15) members have ice plant The prevailing situation created a market gap. Thus, it is on this context that ice plant industry in the area remained favorable and profitable for the past 30 years. To cater to the present market demand on ice, an additional 48-ton capacity ice-making equipment shall be installed in the area. Feasibility Study on Deepchill Ice Plant at the Fishport, Tambler, General Santos City – by Frank Ll.

Dalapo, MBA 16 Demand. In a series of interview conducted by the researcher among private ice plant operators/ managers in the area, local demand for ice starts from pre-procurement to postprocurement period, from unloading to distribution time of fish. According to some fish dealers/traders, it requires three (3) kilos of ice for every kilo of fish to sustain a 24 hr. holding time. The practice among the majority of ice users in the area is to put fresh fish directly to chilling or cooling tank facilities or to cold storage facilities.

Withdrawal for processing/distribution is done on a first in , first out (FIFO) basis. It must be borne in mind that based on observation made, the demand of ice depends largely on the supply of fish and other related agri-based products. See Table 4. 1 below. Table 4. 1 – Volume of the domestic Demand

for ice for the past five years Combined Supply of Estimated Past Domestic
 YEAR Fish (in MT) Demand of Ice (in MT) 1991 115, 440 346, 320 1992 140,
 440 421, 320 1993 168, 480 505, 440 1994 177, 840 533, 520 1995 221,
 650 664, 950 Source: Consultant Research

Consumers of ice. The proposed project intends to concentrate on the demand for ice and other related products among local fishermen, both municipal and commercial, including secondary markets, viz: local fish traders/dealers (Jamboleros/Viajeros), canneries, market vendors, in-land fish operators, industrial users, supermarkets and household users, which are operating/residing in SOCSARGEN Area. Projected Demand. The projected local demand of ice in SOCSARGEN for a 5-year period is presented in the table below, using Arithmetical Straight Line Method. Figures are based on combined historical annual fish production in the area from 1991-1996).

Feasibility Study on Deepchill Ice Plant at the Fishport, Tambler, General Santos City - by Frank Ll. Dalapo, MBA 17 Table 4. 2 Projected annual local demand of ice Year Local Demand (in MT) 1 728, 676 2 792, 402 3 856, 128 4 919, 854 5 1, 047, 306 Source: Consultant's research The annual projected demand is primarily based on the combined production of fish, considering the the ratio of 1: 3. This means that it requires three (3) kilograms of ice for every kilo of fish to be able to maintain a 24 hr. uality holding time. The increasing volume of procured fish is sustained by the increasing number of local purse seiners and foreign purseiners which recorded regular landings recently. Local demand is attributed to total volume of procured fish since all fresh fish catch goes directly to cooling/chilling tank or cold storage before distribution or processing. Another consideration of a possible dramatic

increase of recorded fish landings is due to recent opening of GSC International Fish Port. That the existing 15 private ports can be possibly closed in the long run. Current buyers.

The current buyers are the following: a.) b.) c.) d.) e.) f.) h.) i.) j.)

Fishing operators Fish traders Canneries Market Vendors Meat Dealers

Poultry growers Supermarkets Industrial users Picnickers Potential buyers

a.) b.) c.) d.) Asparagus growers Cut Flower growers Backyard food

processors Prawn farm growers Feasibility Study on Deepchill Ice Plant at the

Fishport, Tambler, General Santos City - by Frank Ll. Dalapo, MBA 18 Supply

Players in the Industry. As of the first quarter of 1998, there were already 25

ice plant facilities in the area, twenty-four (24) are operated by private operators.

Majority were commercial fishermen, and one (1) government-owned ice plant facility with a combined installed capacity of 1, 393 metric tons per

day. RD Food Processing & Export Corporation Ice Plant. It was installed

1987, with an installed tonnage capacity of 80 MT using Grasso brand,

adopting the brine process. At present, the Rivera Group of Companies

diversified its business venture specially in its ice plant operations. RDFPEC

ice plant facility was established initially to support its commercial fishing

fleet which used purse seiners, having a capacity of 1, 500-2, 000 MT each.

However, due to local demand, RDFPEC engaged into commercial ice plant,

recently. RDFPEC ice plant's growth is attributed to efficient management of

competent well-trained personnel and aggressive marketing strategy plus

quality services (Go, 10 December 1995) . Dole Phils. Tuna / Seafood

Division Ice PLant. Dolefil -Tuna Division Ice Plant facility was installed 1989

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and was considered as one of the first modern ice plant facilities ever built in the SOCSARGEN Area.

As of 1995, due to its efficient and effective management strategies and quality products and services, Dole-Phils. Tuna Division ice plant facility was recognized as a member of ISO-9002, a prestigious international organization on quality standards. Its coveted distinction made it the only cold storage ISO-9002 member in this Southern part of the country (Edmilao, 11 December 1995). Pontino Deep Sea Fishing Inc. (PDSFI) Ice Plant. It was installed in 1985 with an installed tonnage capacity of 105 MT using Grasso brand , adopting brine process.

It has acquired as the newest cold storage in the area with the latest screw-type compressor acquired from ABB Stal Refrigeration Inc. , made in Netherlands. San Andres Fishing Ind. – I & II (SAFI-I & II) Ice Plant . It was installed in 1983 and 1990 respectively with a combined installed tonnage capacity of 175 MT. At present, its main clients are Nautica and Celebes Canning Corporations. Currently, SAFI continued to upgrade Feasibility Study on Deepchill Ice Plant at the Fishport, Tambler, General Santos City – by Frank Li. Dalapo, MBA 9 its fleet by acquiring additional purse seiners aside from its existing two (2) purse seiners to be used for highseas operation. (Cosares, 10 January 1996). Philippine Fisheries Development Authority Ice Plant. As a government entity, PFDA , s Ice Plant Facility was established to support the fishing industry in the area, particularly serving the municipal fishermen. Currently, it installed a 60 MT ice plant facility part of the support system of the newly opened International Fish Port. (Pico , April 15, 1998).
The Users.

The main users of Ice Plant products include the following : a) b) c) d)
Municipal Fishermen – pumpboat operators, viajero, jambolero, tuna exporters Commercial Fishing Operators – service boat operators Canning Corporations – conventional storage tanks Commercial Poultry Growers – dressed chicken Commercial Fishing Operators. Commercial fishing operators in the area are involved in the use of high-powered and deep sea vessels weighing over three (3) gross tons with more sophisticated fishing equipment. Usually, fishing operations are in waters more than seven fathoms deep.

It has been found out that commercial fishing operators contribute 85 % to total fishery products as of 1996. Commercial fishing operators have purse seiners, having a capacity of 1, 000 to 1, 500 MT which sometimes cannot be accommodated in existing cold storage facilities (Concha, 8 January 1996) . Some of whom are engaging in tuna and round scad export (Go, 12 December 1995); It was noted that commercial fishing operators considered ice as a major preservative from the harvest to post-harvest period of fishing cycle. (Rivera , 9 December 1995).

In SOCKSARGEN Area, particularly General Santos City, there are 41 commercial fishing operators landing a combined 8, 000 metric ton of fish a month. About 75 purse seiners and another 30 smaller “ unays” or “ mother boats” lead the commercial sector. Another 400 units of fish Feasibility Study on Deepchill Ice Plant at the Fishport, Tumbler, General Santos City – by Frank Ll. Dalapo, MBA 20 carriers, 258 service boats, light boats, and skiff boats complete the entire fleet. This sector employs about 4, 000 – 5, 000 fishermen-workers (NDBRC FI, 1994: 25).

Forty-four (44) per cent of commercial fishing operators are small, meaning they land 1, 000 MT or less per year. On the opposite pole, 4 firms or 10% are big, landing at least 2, 500 MT per year . The top four firms account 13% - 15 % of the total catch. Seven firms (18%) catch between 2, 001 and 2, 500 MT annually. Five and six firms have the ability to deliver 1, 001 - 1, 500 MT and 1, 501 - 2, 000 , respectively. These 19 firms combine to contribute half of the total fish catch . Commercial catch is generally abundant during the months of September, October and November.

Sometimes, the peak season extends to December and even January of the next year. Of the commercial fishing operators, the following do not have cold storage facilities, viz: Amadeo Fishing Corp. , Cantoja Fishing Ind. , Damalerio Fishing Enterprise, Island Gulf Fishing , Inc. , LK Fishing Corp. , MG Evangelista Fishing Ent. , NH Agro Industrial , Inc. , San Lorenzo Ruiz Fishing, Ind. , , Trinity Homes Industrial Development Corp. , Veneracion Industrial Inc. , and Veres Fishing Industries, Inc.. Canning Corporations. Currently, there are six (6) large and medium scale canning companies in the SOCSARGEN area.

With the abundant supply of fish in the area, especially during peak season, local canning corporations resort to cold storage facilities due to the following: a) Local canners have limited production capacity (Tagalog , 8 January 1996); b) Local canners want to be assured of a continuous production process (Yu, 7 January 1996); c) Local canners want to grab the low price of fishery products, particularly tuna, at hand (Gamez, 7 January 1996); and, d) Local canners want to minimize spoilage and maintain quality for increased recovery (Tagalog, 10 January 1996). Feasibility Study on <https://assignbuster.com/project-brief-on-cold-storage/>

Deepchill Ice Plant at the Fishport, Tambler, General Santos City – by Frank Ll. Dalapo, MBA 21 Tuna Supply . SOCSARGEN, General Santos City in particular, is the new tuna capital of the Philippines, lying close to both the rich tuna fishing grounds (i. e. , Sarangani Bay and adjacent waters including those of the Western Pacific) (Singconsult-PRIMExponent , 1990) . Major tuna producing areas in the Philippines lie mainly in the Southern region, specifically, the Moro Gulf, South Sulu Sea, and the Celebes Sea .

These areas are productive year-round with peak seasons in the middle of the months of the year. Other areas compared to commercial fishing production of 1, 945 MT with an average of 486 MT per annum of the same span of time . This showed a 92 % contribution of Municipal fishing in the Tuna Industry per year. The Philippines is located along the so-called “ tuna belt”, running East Central Pacific, which boasts of 60% of the World? s tuna (NDBRCFI, 1994). Moreover, a 1990 study estimated the sustainable tuna catch in the Western Pacific at 250, 000 MT a year. As long as fishing is kept at a prudent level, there is still plenty more where the haul comes from”, according to Asiaweek, dated June 15, 1994. Ice Plant Operators. Records showed that originally there were twenty-five (25) private ice plants and one (1) government-owned. However, due to depreciation and obsolescence since some of them were installed as far back as 1970s, there are only twenty-two (22) private and one (1) government-owned ice plant facilities left with a total tonnage capacity of 1, 393 metric tons. Feasibility Study on Deepchill Ice Plant at the Fishport, Tambler, General Santos City – by Frank Ll.

Dalapo, MBA 22 PFDA -Fis Port h Kingford Cantoja PJI Veres Trinity Homes
 JPS MGE DRC LK Fis hing Dole Phils . Pontino Congs on RDFI 1 & II SAFI I & II
 DAMRI Veneracion SFI Amadeo SLRFI Damalerio 0 25 30 50 50 18 20 25 45
 50 25 25 60 60 55 75 75 105 200 140 175 75 60 100 150 200 Fig. 4. 1

Existing ice plant operators in General Santos City Source: PFDA, 1998 Based
 on the series of interview conducted by the researcher among fishing
 operators, ice supply for in-house usage comprises about 65 % of the total
 ice supply, leaving only 35% to other local ice consumers.

This is so because of the 23 ice plant operators, fifteen (15) are known to be
 commercial fishing operators, too, who use ice frequently for in-house
 consumption, thereby leaving a small volume of ice to municipal fishermen
 and other local users in the area. As used to, the supply of ice is quantified
 through block. Every block has an average of 100 kgs. Based on the

interviews made among local respondents, 75% to 80% of current users
 prefer crushed ice than block ice. Feasibility Study on Deepchill Ice Plant at
 the Fishport, Tumbler, General Santos City - by Frank LI. Dalapo, MBA 23

Table 4. Annual volume of domestic supply for the past 9 years Year 1988
 1989 1990 1991 1992 1993 1994 1995 1996 1997 Source: PFDA, 1996 Past
 Annual Domestic Supply (in MT) 875 1, 125 1, 348 1, 373 1, 373 1, 373 1,
 373 1, 373 1, 373 1, 393 Table 4. 2 Projected annual volume of the domestic

supply of ice for the next 5 years Year 1 2 3 4 5 Source: Consultant? s
 research Projected Annual Domestic Supply (in MT) 525, 624 542, 803 559,

982 577, 161 594, 340 Table 4. 3 Current producers Name of company

Congson Iceplant Pontino Deepsea Fishing RDFI Wharf II RDFI Wharf I San
 Andres Fishing Ind. - I San Andres Fishing Ind. II Veneracion Iceplant

Southern Fishing Ind. Amadeo Fishing Ind. PFDA SLRFI Damalerio Fishing Ind. Dole Phils. Tuna Div. Dole Phils. Prawn Division LK Fishing Inc. DRC Iceplant MGE Fishing Enterprise JPS Iceplant Trinity Homes Iceplant Veres & Nisco Iceplant PJI Iceplant DAMRI Cantoja Iceplant Phil. Kingford Enterprise T O T A L Source: PFDA, 1996 Brands used Frick Grasso Grasso Grasso/Frick Frick Frick Frick Copeland Carrier/frick Grasso Grasso Frick Mycom Coppel/Grasso Frick Grasso Hasegawa Grasso Coppel Installed capacity (in MT) 200 105 80 60 85 90 75 50 60 60 25 30 25 20 25 20 50 75 75 25 55 18 60 25 1, 393 MT

Feasibility Study on Deepchill Ice Plant at the Fishport, Tambler, General Santos City – by Frank Ll. Dalapo, MBA 24 Potential Producers. Other awardees/lesses of the fish port complex are considered as potential producers of ice. According to Carlos Hagosohos, port manager of the Philippine Fisheries Development Authority, General Santos City area, PFDA is proposing to increase their existing production to 600 metric tons. However, if the private sector shall take the initiative to invest on iceplant facilities, then PFDA shall waive its intention to put up an additional capacity.

Competitive Position. Presently, the existing ice plant systems are considered traditional. They occupied larger space that required large buildings and land area, using refrigerated storage rooms, machine rooms, ice crushing machines, pulleys and conveyors. Moreover, they used more electricity to operate, having higher maintenance rate. But above all, they required more manpower, therefore, bigger operating cost. Despite all these, they produced inferior quality products. The product shall be marketed in kilogram according to the kind of services needed.

The standard marketing practice in the area is ice block as a basis in unit price computation. Intensity of Rivalry of Local Players. In as much as there are only a handful of ice plant facilities in the area, rivalry among commercial ice plant operators is not intense. In fact, users are the ones arranging for a long-term contract, say 2 to 5 years, for reservation purposes. The normal practice among ice plant operators in the area is “pasahan” or sharing. It is sharing since some ice plant operators will inform their fellow operators for a client at hand.

This usually happens during peak season. Based on the primary and secondary data gathered by the researcher, it was found out that there is an upward trend in local ice plant industry. Potential entrants are identified with their corresponding capacity. Furthermore, it was found out that the bargaining power of customers is weak. While, the bargaining power of suppliers is relatively strong. Rivalry, on the other hand, as far as local players are concerned, is not intense.

Feasibility Study on Deepchill Ice Plant at the Fishport, Tambler, General Santos City - by Frank Ll. Dalapo, MBA 25 Moreover, it was found out that ice plant services is basic since there is no other substitute except the services of a reefer container. V - Technical Aspect Presently, the existing ice plant systems are considered traditional and produced inferior quality ice products. They occupied larger space that required large buildings and land area, using refrigerated storage rooms, machine rooms, ice crushing machines, pulleys and conveyors.

Moreover, they used more electricity to operate with higher maintenance rate. Above all, they required more manpower, therefore, bigger operating cost. The Site. The site of the proposed project shall be at the Fishport Complex, Tambler, General Santos City. The General characteristics of the site are as follows: a) The site is about 10 kms. from the center of the city, about 4 kms. away from the Makar Wharf with a total area of 500 sq. m. ; b) It is approximately 10 meters from the National Highway and about 2 kms. way from a canned tuna factory site ; c) Accessibility is easy with fairly well maintained paved national highway, and transportation is easily available through the public utility vehicles plying the Dadiangas-Maasim Route or Dadiangas Tambler Route; d) Water is readily available as one of the amenities provided by the Fishport management ; e) The climatic condition is warmer (36 ° C) compared to other parts in the city (31. 5 ° C) (PAGASA, 1995); f) Power / electricity is readily available in the area since main power lines are already set.) The area is relatively peaceful . The proposed project shall render ice products, described as slurry ice, semi-watery ice and crystal ice, which provides ice products for the preservation of perishable particularly fishery products. products, Feasibility Study on Deepchill Ice Plant at the Fishport, Tambler, General Santos City - by Frank Ll. Dalapo, MBA 26 Advantages of Deepchill Ice Plant. The proposed iceplant equipment:

1. requires very little space - up to 1/8 the size of traditional ice plants. No large building. No large land required;
2. equires very little infrastructure to set up - as it does not need refrigerated storage rooms, machine rooms, ice crushing machines, pulleys and conveyors, and a large area to make the ice in;
3. uses less electricity to operate up to 200% less compared to traditional ice plant systems;
4. requires no electricity to store ice since a highly-

insulated, fiberglass reinforced plastic (FRP) storage tank works like a thermos bottle, with a meltage of less than 1 to 2 % per day based on continuous use; 5. makes pure fresh water ice from salt water; 6. operates any type of input water even salt water; 7. pumps ice (in slurry form) to point of need – a ratio of 50% water and 50% ice (or less) from a mixing tank to any point of need; 8. requires very little maintenance; 9. is built to last since it is made of 316 stainless steel, a very durable, non-corrosive metal; 10. is simple to operate, since it is fully automated and requires only one operator to oversee, therefore, requires less manpower; 11. uses food grade materials where necessary to insure safety and cleanliness of water and the ice; 12. will optimize utilization of produced ice up to 100% since it operates in a first-in, first out basis, unlike traditional systems where first-in last out, as far as ice storage/ice distribution is concerned. Feasibility Study on Deepchill Ice Plant at the Fishport, Tumbler, General Santos City – by Frank Ll. Dalapo, MBA 27 The bottomline is, the system produces a superior ice and can be placed almost anywhere and will cost much, much less to operate. Table 5. 1 A System to System Comparison 24-Ton Deepchill Ice System 1. Self contained Ice Generator – inclusive of the compressor and condenser Size: 7?

W x 8? x 71/2? H 2. Storage tank – with harvester and discharge chute Size: 2? W x 6? L x 7? H 3. Process and pump control station Size: 2? W x 6? L x 7? H 4. Brine control system – needed for fresh water source 5. Others – piping, valves, & fittings – cooling tower – package chiller 30-Ton Block-Ice Plant System 1. Ice Generator/brine tank – sides and floor insulation, coils, agitators, can grids, ice cans, wooden covers, etc. Size: 240 to 300 sq. m. 2.

compressor(s) 3. Condenser(s) 4. Refrigerated ice storage room Size: 90 to 150 sq. m. 5. Overhead ice monorail hoist/pulley -none- -none- -none- -none- . Optional Equipment: Electric generator – 50 KVA Pump, filter, and pipes – to draw seawater 7. Total space required: 100 sq. m. – includes building and outside space for storage tank 6. Machine room – economizer – accumulator – control panel – transformer – ammonia liquid receiver Size: 100 to 150 sq. m. 7. Ice crushing machine 8. Water tanks 9. Water pre-cooling tank 10. Others- water heater – dip tank – chilling room – can filter tank – booster pumps – ice can dumper – transfer pumps – cooling tower 11. 325 KVA – a deepwell when no fresh water supply is available 12. 800 to 1,000 sq. m. inclusive of a 2 storey building in height

Feasibility Study on Deepchill Ice Plant at the Fishport, Tumbler, General Santos City – by Frank Ll. Dalapo, MBA 28 Gear Motor Harvester Ice Storage SUNWELL Ice Discharge Chute Control Panel Ice Storage Box Sunwell Generator Pump Station Brine Control System Fig. 5. 1 Plant Layout VI- Management Aspect The project shall be organized as a Joint Venture. This form is recommended due to the following reasons: 1) It will be easier to raise both equity capital and loan financing; 2) Better management can be attained considering the combined expertise of the partners;

Feasibility Study on Deepchill Ice Plant at the Fishport, Tumbler, General Santos City – by Frank Ll. Dalapo, MBA 29 3) As to liability, partnership debts shall be up to the extent of one's interest and extent of his personal assets; 4) The interest of one partner cannot be transferred to a new partner without the consent of other partners. The proposed project shall be run by an Executive Staff, composed of three (3) investors and one (1) consultant.

Organization Structure. The organization chart is shown in Fig. 6. 1. The number of personnel is kept to the minimum.

Executive Staff Plant Manager Marketing Manager Admin. Staff Operations Manager Technicians Contractual Workers Fig. 6. 1 Organizational Chart
 Feasibility Study on Deepchill Ice Plant at the Fishport, Tambler, General Santos City – by Frank Ll. Dalapo, MBA 30 Table 6. 1 Salaries, wages, and Labor / Benefits and allowances Position Executive Staff Owners @ (2, 000 per meeting for 12 meetings per year) Consultant (2, 000 per meeting for 6 meetings per year) Secretary 3 1 1 504, 000 12, 000 57, 600 11, 520 504, 000 12, 000 69, 120 No Allowance (per annum)

Salary (per annum) Fringe Benefits (per annum) Total Plant personnel
 Administrative Staff Plant Manager Marketing Manager Secretary / clerk
 Operations / maintenance Staff Engineer Driver mechanic/ Electrician Utility man Security guard Cashier/bookkeeper 1 1 2 3 1 3 1 1 240, 000 216, 000 115, 200 432, 000 57, 600 115, 200 72, 000 96, 000 48, 000 43, 200 23, 040 86, 400 11, 520 23, 040 14, 400 19, 200 288, 000 259, 200 138, 240 518, 400 69, 120 138, 240 86, 400 115, 200 Contractual workers Total 2 20 516, 000 100, 800 1, 502, 400 20, 160 300, 480 120, 960 PHP 2, 318, 680

===== Note: 1.

Salaries are based on the standard wage scale and escalated at 5 % p. a. 2. Staffing level is assumed to remain unchanged. 3. Employees? benefits (1 month Christmas bonus, contributions to SSS and medicare, Vacation leaves converted to cash and others). Fringe benefits shall be assumed at 20 % of the Basic compensation, accumulated per month. Feasibility Study on

Deepchill Ice Plant at the Fishport, Tumbler, General Santos City – by Frank

LI. Dalapo, MBA 31 Annex – A T I M E ACTIVITIES Mar 1. Feasibility Study

Making 2. Obtaining Financing 2. 1 Bank Loans (1999) April May June

July Aug 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 3. Land 4. 1 Land

Improvements 4. Permits & Licenses 4. 1 4. 2 4. 3 4. 4 4. 5 Building Permit

Mayor? s Permit DTI? Registration SEC? s Registration BOI? S Registration 5.

Ice-making Facility Building 5. 1 Structure 5. 2 Finishes/Inspection 6.

Imported Ice-making Equipment 6. 1 Order 6. 2 Shipment 6. 3 Installation 7.

Local Equipment 7. 1 Procurement 8. Trial Run Fig. 6. 2 Project

Implementation Schedule Feasibility Study on Deepchill Ice Plant at the

Fishport, Tumbler, General Santos City – by Frank LI. Dalapo, MBA 32