



RESEARCH DEVELOPMENT AND EXTENSION PROPOSAL

PANGASINAN STATE UNIVERSITY

BASIC INFORMATION

RESEARCH TITLE	Project: Extraction and Utilization of Distilled Water as By-Product from Salt Making <i>Study 1: Extraction of Distilled Water as By-Product from Salt Making</i> <i>Study 2: Utilization of Distilled Water From Salt Making As Coolant for Car Radiator</i> <i>Study 3: Distilled Water from Salt Making for Car Lead Acid Battery</i>		
PROPOSERS	Irene A. De Vera	Larry Santos	Automotive Faculty and Staff
	Analya I. Diola	Engr. Velasco	
	Rene De Vera	Engr. Lina T. Cancino	
IMPLEMENTING AGENCY	Pangasinan State University		
PROJECT DURATION	January- December, 2021		
LOCATION	Coastal municipalities and cities of Pangasinan with salt industries		
BUDGET REQUESTED	P 300,000.00		

RATIONALE	<p>By-products are not useless rather useful and helpful to the economy and environment of agro-industry community. Salt-making is a flourishing agro-industry in the coastal municipalities and cities of Pangasinan.</p> <p>Salt is essential and so the waste in salt-making. Salt is the common name for the substance sodium chloride (NaCl), which occurs in the form of transparent cubic crystals. Although salt is most familiar as a food supplement, it is used for countless other purposes, such as removing snow and ice from roads (snowy areas), softening water, preserving food, and stabilizing soils for construction.</p> <p>Salt is obtained from two sources: rock salt and brine. Rock salt is simply crystallized salt, also known as halite. It is the result of the evaporation of ancient oceans millions of years ago. Brine is water containing a high concentration of salt. The most obvious source of brine is the ocean, but it can also be obtained from salty lakes.</p> <p>Natural brines always contain other substances dissolved along with salt. The most common of these are magnesium chloride, magnesium sulfate, calcium sulfate, potassium chloride, magnesium bromide, and calcium carbonate. These substances may be as commercially valuable as the salt itself. Rock salt may be quite pure, or it may contain various amounts of these substances along with rocky impurities such as shale and quartz.</p> <p>In the processing of rock and brine salt, by-product like water is mostly dumped in the pond or just in the yard of the industry. Such waste are potential and beneficial to many and to the environment. Hence, these studies are being proposed.</p>
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OBJECTIVES	<p>General Objective: To extract and utilize distilled water as by-product in salt-making</p> <p>Specific Objectives:</p> <ol style="list-style-type: none"> To extract distilled water from salt-making To utilize distilled water from salt-making as coolant for car radiator To utilize distilled water from salt-making for car lead acid battery
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METHODOLOGY	<p>The studies are mostly experimental design on the production aspect and mostly developmental on the utilization aspect. Appropriate statistical treatment will be employed to specific study/ies.</p> <p>Standard process and procedures shall be noted and observed.</p>
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REFERENCES	http://www.madehow.com/Volume-2/Salt.html#ixzz6ZvPiEnsx
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EXPECTED OUTPUT	<p>The following are the expected output:</p> <ol style="list-style-type: none"> Handbook or guidebook on the extraction and utilization of distilled waters from salt-making for car coolant and for car lead acid battery Utility models
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POTENTIAL IMPACT	Environmental sustainability and reduced inequity.
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MILESTONE	Target Date	Description
	January - February 2021	Planning and preparation
	March – July 2021	Data Gathering
	August - October 2021	Interpretation of Data
	October – November 2021	Preparation of report

	December 2021	Submission of report
USERS OR BENEFICIARIES	Salt-laborers and farmers	
	Scientific community	
DETAILED BUDGET REQUIREMENT	Study 1	75,000
	Study 2	75,000
	Study 3	75,000
	total	225,000

BRIEF PROFILE OF PROPONENTS

Environmental Science Faculty	
Automotive Faculty and Staff	Biological Science and Education Faculty

SUBMITTED BY:

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