DESIGN, FABRICATION, AND PERFORMANCE EVALUATION OF FEED CANON MACHINE FOR CATFISH PRODUCTION

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An Undergraduate Thesis Submitted to the Faculty of the Department of Agricultural and Biosystems Engineering, College of Engineering, Central Luzon State University, Science City of Muñoz, Nueva Ecija, Philippines
in Partial Fulfillment of the Requirements
for the Degree of

BACHELOR OF SCIENCE IN AGRICULTURAL AND BIOSYSTEM ENGINEERING
(AB Machinery and Power Engineering)

JULY 2024

ACCEPTANCE SHEET

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BIOGRAPHICAL SKETCH

The author, Carlo Anthony L. Ortiz was born on April 2, 2000, in Capintalan, Carranglan, Nueva Ecija. As the eldest son among the three children of Mr. Tony K. Ortiz and Mrs. Carina L. Ortiz, he was raised in a simple yet faith-filled environment, instilling in him a strong belief in God.

The author's educational journey commenced at Capintalan Elementary School, where he graduated in 2012. Subsequently, he completed his high school education at Capintalan High School in 2018. Growing up, he spent his free time assisting his parents in the fields, gaining firsthand experience of the challenges faced by farmers. This exposure led him to a pivotal decision when he left his hometown to pursue higher education: he enrolled in a course that would equip him to alleviate the difficulties encountered in farming.

Upon enrolling in the college, the author received a scholarship from the Commission on Higher Education-Tertiary Education Subsidy (CHED-TES) program, which supported his college education for five years. Coming from a low-income family, this scholarship was instrumental in his studies, especially during the pandemic.

During the 2023-2024 academic year, the author gained valuable professional experience by working in the University Extension Program Office and the Office of the Vice President for Academic Affairs under the Special Program for Employment of Students (SPES) held by the Office of Student Affair of CLSU. As an assistant in these offices, he managed student, faculty, and employee data, attended seminars, and interacted with important stakeholders. Additionally, he completed an on-the-job training at the

Bureau of Fishery and Aquatic Resources, where he deepened his knowledge of fish farming.

Looking ahead, the author aspires to become an Agricultural and Biosystems Engineer (ABE) specializing in farm and field management. His goal is to contribute significantly to sustainable agricultural practices.

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BIOGRAPHICAL SKETCH

The author, Artfourt Montera Laingo was born on December 4, 1998, in Commonwealth-Manggahan, Quezon City, National Capital Region. As the youngest among the four children of Mr. Artemio B. Laingo and Mrs. Eufemia M. Laingo, he was raised in an environment free of violence, full of love and support, and with a faithful belief in God.

The author's educational journey began at Llanera Central School, where he graduated in 2012. Afterward, he completed his high school education at Llanera National High School in 2018. Realizing the difficulties of farming in Llanera, led him to a course that could help, and eventually, develop him as competent engineer for farmers.

During the 2020-2023 academic years, the author gained valuable professional experience as a working student and virtual assistant, working in various fields such as real estate research, and purchasing, social media management, business screening, appointment setting, and file screening. Additionally, he completed his on-the-job training at the Philippine Rice Research Institute, which helped him gain knowledge of agricultural machinery.

Looking forward, the author aims to become an Agricultural and Biosystems Engineer (ABE) with a focus on farm machinery. He seeks to develop and make an impact on sustainable agricultural practices.

ARTFOURT M. LAINGO

ACKNOWLEDGMENT

The success of this study is indebted to the generous ideas, knowledge, support, and encouragement provided by those who have extended their assistance. In recognition of their invaluable contributions and unwavering dedication, the author expresses profound gratitude and acknowledges the following individuals:

To Mr. Ruel G. Peneyra, the adviser, for his generous guidance from the inception to the culmination of the study. The dedication and time invested in the research are deeply appreciated.

Acknowledgment is also due to Dr. Jonathan V. Fabula and Mr. Roldan T. Quitos, members of the advisory committee, for their insightful criticism, valuable suggestions, and motivating encouragement throughout the study.

Special thanks are given to Mr. Tony and Mrs. Carina Ortiz, the parents, for their steadfast love and support, for fulfilling all needs, patience and understanding, continuous guidance, and unwavering presence in all circumstances.

To Mr. Artfourt M. Laingo, esteemed collaborator of the author throughout the formulation and presentation of the study, it has been an honor to partner with you in this scholarly endeavor.

Gratitude is expressed to Ma. Clarizza T. Alonzo, the girlfriend, whose consistent support, love, and understanding have been a source of strength and inspiration. Her encouragement and belief have fueled the determination to excel, and her presence has added warmth and joy to every moment.

Appreciation is also extended to friends and classmates for their companionship and support during challenging times throughout the internship. Their camaraderie and collaborative spirit are cherished.

Above all, the author is profoundly thankful to the Almighty God for divine guidance and grace that have shone throughout the thesis completion. In moments of uncertainty and challenge, His wisdom and strength have been a steadfast support, providing comfort and inspiration. The author is grateful for His blessings that have enabled this scholarly pursuit with humility and resolve. May His infinite wisdom continue to guide the author's journey towards greater understanding and enlightenment.

CARLO ANTHONY L. ORTIZ

ACKNOWLEDGMENT

This study work owes much to the ideas, knowledge, support, and encouragement generously provided by those who extended their helping hands. Therefore, the author wishes to convey heartfelt appreciation and acknowledgment for the invaluable contribution and dedication of the following individuals:

To his adviser, Mr. Ruel G. Peneyra, who generously shared his knowledge and unwavering encouragement toward his life goals, particularly his ambition to become an agricultural engineer in the future. He appreciates Mr. Peneyra's patience during moments of setback and expresses profound thanks for his positive influence, which motivates him to strive harder in his studies for a brighter future;

To Dr. Jonathan Fabula and Mr. Roldan Quitos, members of the advisory committee, for their constructive criticism, suggestions, and encouragement during the study;

To all his professors who shared and continuously impart their knowledge with students like him, shaping him into a better person;

To his parents, for their unwavering love and support, for meeting all his needs, for their patience and understanding, for their enduring guidance, and for their constant presence regardless of the circumstances.;

To his sister and brothers, the source of inspiration to him, constantly encouraging him to make the most out of every situation, and for being proud and unwaveringly supportive siblings;

To his friends, for their joy and unwavering support and comfort during challenging times throughout his internship. He expresses gratitude for their camaraderie and

collaborative spirit, and for being his companions with whom he can share both laughter and sorrows; and

To Carlo Anthony L. Ortiz, with gratitude for a wonderful partnership during and after this collaboration, it has been an honor to work with you. You embody hard work and wisdom;

To Ma. Anie M. Asuncion, whose unwavering support, love, and understanding have been a constant source of strength and inspiration throughout this journey. Her encouragement and belief in him have fueled his determination to excel, and her presence has brought warmth and joy to every moment. Her patience, kindness, and unwavering support are deeply appreciated and will always be cherished;

Above all, the author extends heartfelt appreciation to the Almighty, whose divine guidance and unwavering grace have illuminated the path throughout the completion of this thesis. In times of uncertainty and challenge, His boundless wisdom and strength have served as steadfast support, providing solace and inspiration. The author is profoundly grateful for His blessings, which have enabled the undertaking of this scholarly endeavor with humility and determination. May His infinite wisdom continue to illuminate the author's journey and guide him toward greater understanding and enlightenment.

ARTFOURT M. LAINGO

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ABSTRACT

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Adviser: RUEL G. PENEYRA, M.Sc.

Catfish production has always been laborious, and with manpower and the next generation of fish farmers dwindling, the need for innovative technology has become essential. The catfish feed cannon machine was developed to enhance the fish farmer's ability to feed fish more quickly and efficiently.

This study examines the impact of engine rpm levels on the operational efficiency of a feed canon machine across various performance metrics: distribution efficiency, throughput capacity, and distribution range. The performance evaluation was performed on 100 sq.m plot of land and determined that 1500 rpm across the three-performance metrics was not able to achieve the performance requirements, nonetheless, the 2500 rpm and the 3500 rpm in all metrics were able to achieve the performance desired in efficient manner. Overall, optimizing the engine rpm to 3500 rpm substantially enhances the feed canon machine's performance across all metrics, maximizing efficiency and operational effectiveness.

Keywords: Catfish; distribution efficiency; throughput capacity; distribution range; fish feeding

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