



Instrumental Impact Of Researches Of CSU Aparri In The Coastal Towns Of Northern Cagayan Using Payback Model

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Abstract

The study assessed the socio-economic impact of Fishery researches in the Coastal towns of Northern Cagayan. Impact assessment included on surveying (product) commercialization, product/technology adoption and policy recommendation.

In the study, it was found out that there was no specific individual or entrepreneur who commercialized or adopted any technology /products which are outputs of research except Bagoong Cube which was commercialized by Punta fisherfolks with the assistance of DOLE, DOST and Aparri LGU.

Among the researchers conducted, the researches about Cabibi (*Batissa Violacea*) and Aramang (*Nematopalaemon tenuipes*) were the bases for the passage of Ordinances in conserving and protecting the specie in Lal-lo and Aparri respectively. Without these ordinances, Aramang and Cabibi industry would eventually perish. The study offers potential recommendations to bring in research impacts to the community level.

Keywords: Socio-economic, Impact, Fisheries, Coastal Towns, Cagayan

INTRODUCTION

Impacts originating from research are becoming increasingly important as funders and governments around the world seek evidence of the worth of their research investments to society (Edler et al., 2012; Oancea, 2019). The rise of research over the last few decades has outpaced available public funding in many nations, sparking debate over how to get the most out of research.

A variety of definitions of research impact have emerged, primarily in technical documents guiding research assessments (e.g., Australian Research Council, 2017; Research England, 2019) or within specific disciplinary contexts (e.g., Halse and Mowbray, 2011; Neiderman et al., 2015; Alla et al., 2017).

Over the past two decades, increasing emphasis has been placed on the impact of scientific knowledge in diverse societal contexts beyond academia. The increasing relevance of research for social developments has become a focus of many research and innovation policies (Felt, et.al, 2018).

One of the major thrusts of the Cagayan State University is pursuing vigorous researches in various areas especially in Fisheries. This is an academic approach to generate innovative technologies, empirical data for policy recommendations and adaptations and product development for industrial commercialization in the fishery sector.

Fisheries researches have been conducted since the establishment of the CSU-Aparri College of Fisheries in Marine Science. Both students and faculty conducted various type of researches e.g. social/descriptive and experimental in order to contribute to the pool of knowledge in conserving, protecting, utilizing and developing our aquatic resources redounding to the alleviation of lives of the fisherfolks.

Along the research thrust of the University, the administration have been funding institutional researches conducted by faculty and staff. There are also external linkages and funding agencies e.g. ADB, DOST, ICRMP, DOLE and LGU's that support the conduct of Fishery researches. Undeniably, Huge capital have already been invested in research so, it is high time to assess whether or not these investments have an impact to the socio-economic lives of the people (especially fisherfolks) particularly in Northern Cagayan. Research impact assessment practices form part of the scrutiny of the third mission of universities.

The payback model developed by Buxton and Hanney (1999) taking into account resources, research processes, primary outputs, dissemination, secondary outputs and applications, and benefits or final outcomes provided by the research were considered. Categories of outcome in the 'payback' framework include i) knowledge production (journal articles, books/book chapters, conference proceeding, reports); ii) use of research in the research system (acquisition of formal qualifications by members of the research team, career advancement, and use of project findings for methodology in subsequent research); iii) use of research project findings in health system policy/decision making (findings used in

policy/decision making at any level of the health service such as geographic level and organization level); iv) application of the research findings through changed behavior (changes in behavior observed or expected through the application of findings to research-informed policies at a geographical, organization and population level); v) factors influencing the utilization of research (impact of research dissemination in terms of policy/decision making/behavioral change); and vi) economic benefits (improved service delivery, cost saving, or increased equity).

This study pegged into determining the utilization of fisheries researches at Cagayan State University at Aparri.

METHODS

a semi-structured interview guide for researchers and fisherfolks to identify the impact of their research and is accompanied by verification processes were used in the study. The payback categories have been found to be applicable to assessing impact of research [15,24,29], especially the more proximal impacts on knowledge production, research targeting, capacity building and absorption, and informing practice, policy, and product development.

The data was gathered with the use of Qualitative research methodology. In-depth interviews and focus group discussions were employed. Using purposive sampling, the study selected 20 fishers in various coastal towns of Aparri. In depth interviews were carried out with heads of the fishery sectors in barangays to understand the socio-economic impact of the researches. In the FGD's two groups had five people each and they were carried out for 45 minutes. Morris (2015) stated that for issues of concentration levels, in depth interviews should not exceed the 45 minute timeframe.

RESULT AND DISCUSSION

On Knowledge Production

The knowledge produced by the studies assessed were presented in peer reviewed publications. Peer-reviewed presentations and publications are traditionally counted as research outputs.

Knowledge production in the study was assessed by asking fisherfolks on their awareness of fishery research products or technologies developed by researchers. On the other hand, grounded on the same, researchers were asked on the commercializations of their researches.

Table 1 shows that bagoong cube was the most popular products among the items. Ninety-eight (98%) percent of them knew about it. But based on investigation, only Punta fisherfolks association commercialized it because it was supported by DOLE and Aparri LGU. Only 6 or 5.21% of the respondents knew about Euchuma candy which was developed by Dr. Theresa Domingo in 1984. Further, there was no single proprietor who commercialized any of the products in table 1.

According to the record of fisherfolks association, the association had an average income 15,000-20,000 every time they produced bagoong when raw materials, Anchovies or Dilis, were abundantly available, usually summer time. When the Punta Fisherfolks Association Display Center was visited, there were other available fishery products displayed e.g. boneless bagoong and powdered aramang but they were not products of research but outputs of CSU-Aparri extension programs way back in 2004.

	Frequency (n=115)		Percentage (%)	
	Yes	No	Yes	No
1. Are you aware of the following Products?				
a. Bagoong Cube	98	17	85	15
b. Euchuma Candy	6	109	5.21	94.7
c. Enhanced Alamang Spicy		115	0	115
d. Others		115	0	100

On Policy Recommendations

In Aparri, respondents knew that the output of the research entitled ARAMANG- Aparri Cagayan River Estuary Assessment Management and Governance has given rise to the passage an "Ordinance, No. 2015-151 adopting the strict implementation of a closed season of aramang catching in the Municipal water of Aparri, Cagayan every September 1 to November 15 of each year. This was to prohibit the catching of Aramang at a particular period of the conservation of Aramang purposes.

Just recently, the output of the research entitled Assessment of Batissa Violacea "Cabibi" at Catayauan Lallo, Cagayan was the basis of the passages a Resolution enacting ordinance No. 05-2005; "Declaring one and a half kilometer length of Cagayan River within Lallo Jurisdiction from the boundary of Gattaran as a "Cabibi Sanctuary" and providing penalties for violation thereof".

According to 2016-2017 CEO's Report 2016, the research was not just serving the Lalloquenos. It also stresses environmental awareness among all Cagayanos to preserve the resources nature is giving to mankind so that the succeeding generation will still have a rich reserve to sustain in the future. This ordinance points to the special task given to humans as stewards of creation. According to the Aparri LGU though the Sanguniang Bayan, No law or ordinance passed yet considering the output of Dr. Esterlita L. Calanoga and Mr. William M. Vilorio. In Camiguin Island, there was a delineated **No take zone** as a result of assessing Corals, Reef fish and Sea grass. However, the delineation is not yet well defined by law or ordinance.

On the adoption of Technology

Out of reported research outputs in 2014, there were technologies and innovations being showcased. At the time of the

investigation, there was a Red Tilapia Grow-out production whereby COFMS and BSBA were involved. The project was funded by DOLE for both production and instruction. According to one head researcher, while the production was not highly commercialized, COFMS and CBEA students benefited from the project for the Technology and bookkeeping aspects respectively. This was not however a research but an entrepreneurial endeavor designed for students. For the breeding of blue crab, Fisherfolks in Sta. Ana learned the technology, however, they claimed that the production was not commercialized due to lack of stocks and logistics e.g. facilities and other technical inputs for the project.

Bagoong Cubes

Bagoong cube, which is now in the market, is a novelty product developed by Dr. Carmencita L. Culasing of the Cagayan State University- College of Fisheries and Marine Sciences (CSU-CFMS) in Aparri, Cagayan. This was an offshoot of a study entitled "Preparation of Dried Products from Fish Paste (Bagoong Cubes)" conducted through the assistance of the Department of Science and Technology- Philippine Council for Aquatic and Marine Research and Development (DOST-PCAMRD). The product was offered for sale at the Aparri Souvenir Center at the Aparri Fish Market, though in a limited quantity Dr. Culasing conducted three specific studies. The initial study to identify the best fish species for bagoong cubes; the second, investigated the optimum fermentation period for bagoong cubes making, and the third focuses on the effect of antioxidant on the sensory qualities of bagoong.

All other products patented in table 9 are still due for commercialization and subject of various extension activities of the CSU- Aparri.

Title	Author	Registration No.	Remarks
Process of making Aramang (Nematopalaemon tenuipes) Powder Enriched Polvorone	Dr. Lenimfa P. Molina	000171	Patented 2016
Noodles Enriched with "Aramang" (Nematopalaemon tenuipes) powder and the process of making thereof	Dr. Lenimfa P. Molina	000172	Patented 2016

CONCLUSION AND RECOMMENDATIONS

CONCLUSSIONS

Based on the investigations, there were completed Fishery Researches which were internally and externally funded. In fact, most of them were presented in local, regional and international conference. There were technology and processes patented but not well disseminated to the community except Bagoong Cubes which are now available in the market. There were researches which served as bases for the passage ordinances in conserving and protecting fishes especially Aramang in Aparri and Cabibi in Lal-lo.

Finally, based on CSU-Aparri Accomplishment Reports from 2010 to 2016, there were no specific individual or entrepreneur who commercialized products demonstrated or introduced by CSU-Aparri except that of Punta fisherfolks association.

RECOMMENDATIONS

1. Intensify packaged extension program i.e. provision of technical and financial assistance like that of TESDA Concept.
2. Researches should focus more on creating livelihood for the community especially on fish production and product development
3. Intensify more collaboration with funding agencies to venture on more scientific researches for better fish production along Marine Fisheries and Aquaculture and Post- harvest.

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