

THE ROLE OF COMMUNICATION CAMPAIGN STRATEGIES FOR SUSTAINABLE RESOURCE DEVELOPMENT IN PAPUA NEW GUINEA

John Riwasino

C/-Andrew Lati, P.O Box 4150, Allotment 16 Section 155, Aquari Ave, East Taraka
Lae 441, Morobe Province, Papua New Guinea, *jkriwasino@gmail.com*

Abstract

This research underpins the role of communication campaign strategies for sustainable resource development in Papua New Guinea. The research employed both qualitative and quantitative paradigms. Field data were collected from a 10% sampling size to represent the whole population whereby 200 respondents were interviewed. Findings show that communication campaign was a technique to inform and influence landowners of Markham Valley. The research into the influence of communication campaign on technology transfer, diffusion process and adoption behaviour reveal that the most effective diffusion processes were observed from neighbour which confirms the extension, adoption and development of new technology through diffusion process within the same community. The research into adoption behaviour reveals that the most people in Markham Valley were found to be early adaptors of agricultural innovation. This research paper recommends that a socially constructed communication campaign is more appropriate and convenient in the case of Markham valley as it express social value of the communication which can influence and manipulate mindset of the rural people in Markham valley about the potential of commercial tree farming.

Keywords: agricultural innovation, commercial tree farming, communication campaign strategies, social value, sustainable resource development

Introduction

This research paper investigates the role of communication campaign strategies for sustainable resource development in Papua New Guinea (PNG). The research was carried out at PNG Biomass Project Impact communities of Markham Valley in Morobe Province, Papua New Guinea. The main reason behind the research was to investigate and evaluate various communication campaign strategies facilitated by the developer (PNG Biomass) for sustainable resource development and commercial tree farming in Markham Valley.

Research Background

Communication campaigns utilize techniques that purposive attempts to inform or influence behaviours in large audiences within a specified time period using an organised set of communication activities and featuring an array of mediated messages in multiple channels (Coffman, 2008; Atkin & Rice, 2013). Atkin and Rice (2013) further elaborated that campaign designers must do situational analysis by intensive on-field research to determine campaign strategies that may create informative and persuasive messages to the audience. The campaign messages can be disseminated through various media including mass media, multimedia, audio media and traditional media as well as inter-personal communication, particularly face-to-face communication.

Communication campaigns impart ideas for a strategic purpose in the attempts to shape behaviour toward desirable social outcomes. Communication campaigns can be designed for both short-term and long-term approaches which are determined by the length of the campaign carried out. Gay & Lesbian Alliance Against Defamation (GLAAD) and the Movement Advancement Project (MAP) (2008) point out that short-term campaign is used to move people quickly for certain action whereas long-term campaign is used to educate the public and change opinions. Coffman (2008) mentioned two basic communication campaign approaches namely individual behaviour change campaign and public will campaign. The individual behaviour change campaigns such as inter-personal communications intend

to change individual behaviours whereas public campaign attempt to mobilise public action. The research survey was carried out to explore those two fundamental areas of the communication campaign.

Research Problem Statement

PNG Biomass was a (developer), a change agent who carried out communication campaign about commercial tree farming in Markham Valley but was unable to secure land, and also those land secured were found to be under land dispute. The challenge was to identify and improve better ways of disseminating information about tree farming in Markham Valley in order to secure land for sustainable resource development.

Research Objective, Question and Gap

Research Objective

The main objective of the research is to investigate different communication campaign strategies and identify appropriate communication approach for sustainable resource development and commercial tree farming in Markham Valley, Morobe Province and Papua New Guinea.

Research Question

This research sought to identify suitable communication campaign strategies that may be applicable to resource developers (PNG Biomass) for commercial tree farming in Markham Valley. The research questions sought to investigate:

- i. *“What are the significant of carrying out communication campaign for sustainable resource development and commercial tree farming in Markham Valley?”*
- ii. *“How do communication campaign strategies influence technology transfer, diffusion process and adoption behaviour of resource owners and commercial tree farming in Markham Valley?”*

Research Gap

The research attempts to investigate and understand the barrier in forestry and development processes, and in particular, the role of communication campaigns in the process of extension and adoption of new ideas, crops and innovations in Markham Valley.

Research Site, Design and Methods

The research site is the field data collection site and research design captures data collection method and sampling strategies.

The Research Site

The research was undertaken in the Umi-Azera Constituency of Markham Valley District in Morobe Province of Papua New Guinea. Field data were collected from PNG Biomass project impact communities of Mangiang, Mutzing, Umi, Mayanzarang, Tumua, Waritzian, and Watarais. Figure 1 present a map of the research site in Umi-Azera Constituency of Markham Valley District.

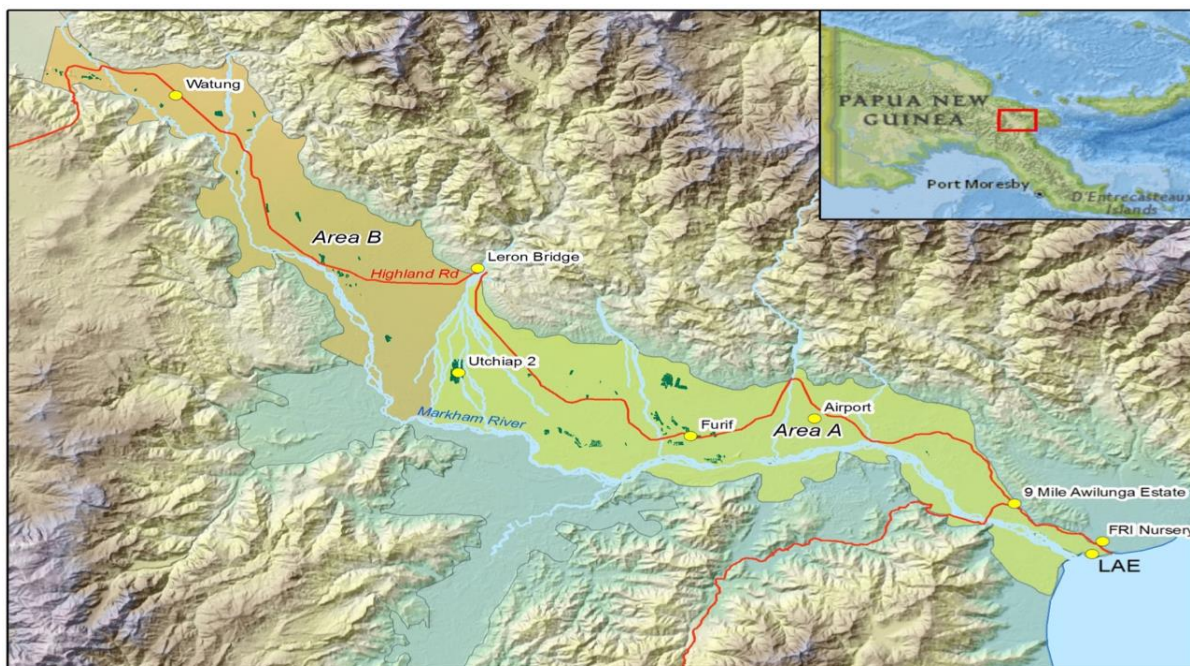


Figure 1. Research site in Markham Valley District, Morobe Province
Source: PNG Biomass project site profile Map, 2023

Research Design

The research design comprises of data collection method and sampling strategies which include data processing and analytical method.

Data Collection Methods and Sampling Strategies

In this research, qualitative data were collected using survey questionnaire with open-end questions, interview, focus group meeting and discussion. The quantitative data were captured from survey questionnaire with closed-end questions, field assessment and evaluation. Both qualitative and quantitative data were collected from 10% sampling size to represent whole population whereby 200 respondents were interviewed.

Data Processing and Analysis Methods

The research employed both descriptive and thematic data processing and analytical methods. The descriptive data analysis was based on quantitative field data in which the research presented numerical dataset in a summary that describes the data sample and its measurements (Loeb et al., 2017; Kaur et al., 2018). Thematic analysis is applicable to qualitative field data which identifies patterns or trends of emerging issues or research problems in the area of research. According to Vaismoradi et al. (2016) and Dawadi (2020), thematic analysis a process of examining and evaluating case study data in order to provide patterns and trends that describe and explain a phenomenon in which the research is being undertaken. Through the descriptive and thematic data processing and analytical methods, the field data were further analysed and interpreted to provide findings to the research.

Results and Discussion

The findings of this research discuss both actual communication campaigns carried out by the resource developer, PNG Biomass, as well as findings from research survey, data collection and analysis through the use of survey questionnaires, meetings and focus group discussion. The findings based on two main

research questions which were: (i) “What are the significant of carrying out communication campaign for sustainable resource development and commercial tree farming in Markham Valley?” and (ii) “How do communication campaign strategies influence technology transfer, diffusion process and adoption behaviour of resource owners and commercial tree farming in Markham Valley?”

Answering the Research Question

Research Question 1: “What are the significant of carrying out communication campaign for sustainable resource development and commercial tree farming in Markham Valley?”

In answering to the question 1, it discussed the actual communication campaign carried out by the resource developer, PNG Biomass, which include awareness, distribution of PNG Biomass pamphlets, mass media communication campaign strategies, online communication campaign strategy and printed media campaign.

Community Awareness

The community awareness about PNG Biomass project in public and community meetings and gathering was one of the communication campaign methods/ strategies facilitated by PNG Biomass.

As shown by Figure 2, PNG Biomass campaigners provides speech during / at a public gathering of two clan compromising together to facilitate cocoa project on their land at Mayanzarang in Umi, Upper Markham Valley.



Figure 2. Picture shows land group aligning together to facilitate development project on their customary land
Source: Mayanzarang landowners' meeting photo, 2015

Distribution of PNG Biomass Pamphlets

As a matter of communication campaign strategy, PNG Biomass produces and distributed pamphlets to the communities in Markham Valley. The pamphlets were distributed through one-on-one meeting as well as during awareness campaign in the public forum and places, community town hall meetings and gatherings as shown on Figure 3.



Figure 3. A local in Watarais community of Upper Ramu accessed to the PNG Biomass Pamphlets land
Source: PNG Biomass awareness program at Watarais Photo, 2015

Mass Media Communication Campaign Strategies

PNG Biomass Project Management Team carried out the live broad casting through Papua New Guinea popular Television Programme, PNG EMTV at the Lae Agricultural show in October 2016. During the live broad-casting, spoke person of PNG Biomass was able to emphasis about importance and significant of Biomass project, and the positive impact and benefits to the local communities and Papua New Guinea in-terms of social change, monetary benefits, carbon sequestration through planted trees for decarbonization and further combat global warming and climate change effect as shown on Figure 4.



Figure 4. Live broadcast over PNG EMTV program as mass media communication campaign strategies for promoting PNG Biomass project
Source: PNG Biomass Morobe Agricultural Show Participation, 2016

Online Communication Campaign Strategy

Online communication campaign was another method of communication campaign and spreading news about Biomass tree farming project in Markham Valley. These also include publishing news and feature stories about progress and positive impact of the Biomass project in Markham Valley shown in the following online link <https://www.pngbusinessnews.com/articles/2020/12/png-biomass-promotes-intercropping> and <https://www.pngbusinessnews.com/articles/2021/4/powering-papua-new-guinea-empowering-communities>.

Printed Media Campaign

PNG Biomass collaborate with printed media news agency to publish news and feature stories about the progress and positive impact of biomass project in Markham Valley. Figure 6 represent news story about PNG biomass community development initiative, training and capacity building that was carried out in the project impact community of Tararan village in Huon Gulf district of Morobe Province. The news article published in the PNG National newspaper was about introducing of bio-fuel stove for cooking and lighting that solve household needs in the community.



Figure 5. Printed media publication of PNG Biomass community development project initiative
Source: The National newspaper article, 2015

During the project development stage, PNG Biomass facilitated various communication strategies which include community awareness through distributions of pamphlet, online and TV broadcast advertisement in order to disseminate information about sustainable resource development and commercial tree farming in Markham Valley.

The research further investigated and evaluated the influence of communications mediums and channel on resource development, agribusiness and commercial tree farming technology transfer, innovation, diffusion process and adoption behavior. This leads to answering research question 2.

Research Question 2: “How do communication campaign strategies influence technology transfer, diffusion process & adoption behavior of resource owners and commercial tree farming in Markham Valley?”

Technology Transfer, Diffusion Process & Adoption Behavior

Technology Transfer and Diffusion Process

Technology transfer is a process in which new information about improving system is being disseminated to targeted audience. In most case of the project development, developer provides new information and practices about resource development, agribusiness and farming opportunities and then the adopter (resource owners) accepts the technology and further implement by adopting the innovative farming systems.

This research paper identified, investigated and evaluated four different type of diffusion process which include: observed from neighbors, by transfer agent, observed from field agent and visit from within and outside.

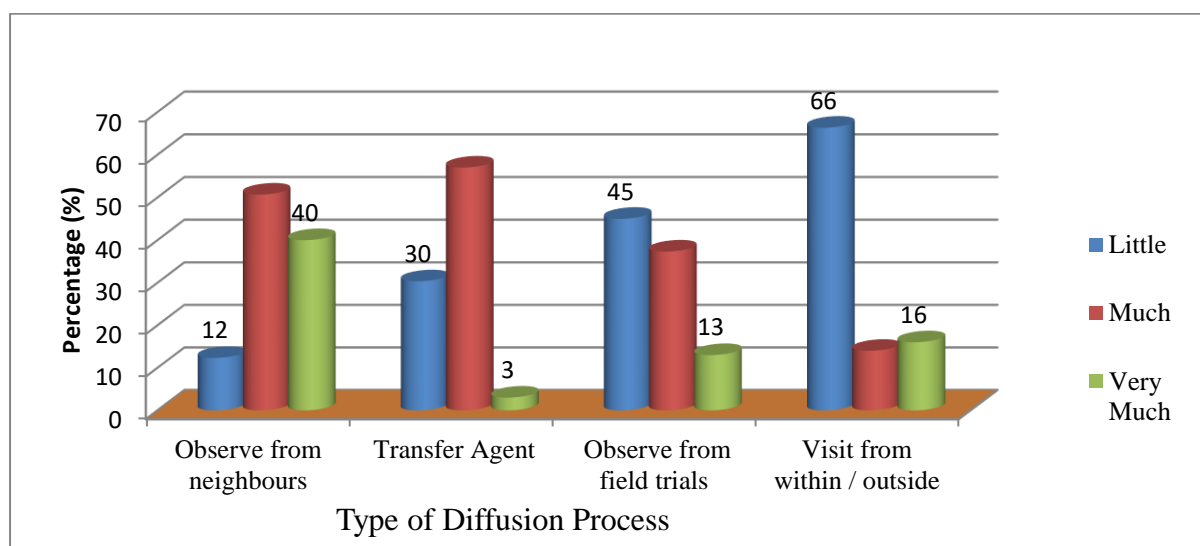


Figure 6. Different type of diffusion process during communication and technology transfer for commercial tree farming

Source: Authors personal research file, 2023

Figure 6 indicates different type of diffusion process during communication and technology transfer for sustainable resource development and commercial tree farming in Markham Valley of Morobe Province. According to the findings, most interviewers responded, ‘very much’ and agreed that observed from neighbors is most effective ways of diffusion process with scoring of 40%, followed by visit from within and outside with 16% and then observed from field trials ranked third with 13%. The least diffusion process was found to be diffusion process through transfer agent visit with scoring of 3%. This result also confirms by interviewers responded, “little” and agreed with the scoring of 66%.

The result from figure 6 shows that the most common and effective diffusion processes were observed from neighbors (40%). The finding confirms that extension, adoption and development of the new technology through diffusion process have been based largely or guided what they see or hear from the other people next – door or the neighbors within the same community.

The findings also revealed that the least diffusion processes were through: transfer agent (3%) and visit made by the people outside from the Province (16%). In other words, most rural people in Markham Valley does not travel abroad especially outside from the Province to learn new things or acquire new information about improving livelihood or either improving farming systems and practices. One of the reason people were not exposed to the outside influence was because of financial constraints to meet the travelling expenditure. Another reason was due to lack of organization and interaction between the people and the outside world or external organization for collaborative effort.

The next investigation was adoption behavior of farmers and resource owners for the resource development, agribusiness and farming innovation.

Adoption Behavior

The adoption behavior in resource development, agribusiness innovation and farming involves changing the way of doing things from traditional practice to new ways of improving agricultural innovation and farming system in the rural communities. This research investigated five (5) main elements of adoption behavior which were innovator, early adaptor, early majority, late majority and laggards. The innovators are those farmers who take risk to involve in the innovation but they are energetic, creative and have vision to develop new ideas; early adaptor are farmers who have social status in the community, with financial capacity and more confident in the investment regardless of risk involved because they are well – informed about benefit of the developing the farming project; early majority are the group of a farmer who are on cross-road with doubtful mind but adopts innovation because of influence of others; late majority are those farmers with fewer resources to risk and adopting out of economic necessity once uncertainties over innovation performance have been removed as evidenced by the adoption behavior and experience of others and the final group of adaptors are laggards who are those farmers coming after all others which tend to be the poorest and least socially connected. Figure 7 represent different adoption behavior for the farmers in Markham Valley of Morobe Province.

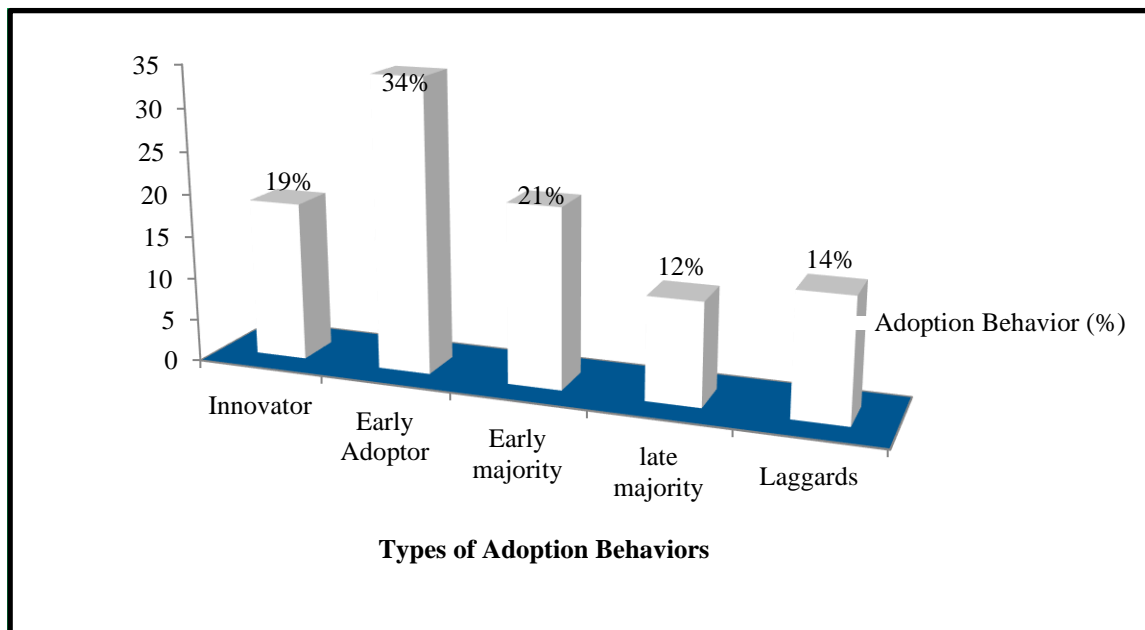


Figure 7. Different types of Adoption Behaviors
Source: Authors personal research file, 2023

Figure 7 indicates the percentage of innovators, early adopters, early majority, late majority and laggards for farmers in Markham Valley. Findings reveals that early adaptors ranked first with scoring of 34%, followed by early majority with 21% and then innovators with 19%.

This result indicates that most people in Markham Valley were found to be early adaptors of agricultural innovation due to their social status or standing order in the community and also, they have financial capacity to meet the operational cost prior to the financial return. The early adopters were people who have more self-confident in the investment regardless of risk involved because they are well-informed about benefit of their investment by extension agent or either by agricultural professionals.

The least adaptors were late majority with scoring 12% followed by laggard with 14% respectively. These were the group of a people who were on cross-road with doubtful minds but adopt innovation because of influence of others. Late majority were the farmers with low social and economic status in the community.

According to Rogers (1995), diffusion is a social process, a process of changing occurs in structure and function of social system. Pannell et al. (2006, p. 1409) stated that “the adoption of innovation in a social system is influenced by personnel, social, cultural and economic factors.” In other words, changes in environment affect people’s attitudes and behaviors and further influence their adopting of new ideas. Koczberski and Curry (2005) elaborate that change of livelihood is determine by new policies and analytical approaches in management and use of resource. In other words, proper communication strategies with collaborative approach which involves people (the tree farmers) in order to achieve adoption and diffusion process of tree farming practices that may bring in change of livelihood.

Conclusion and Recommendations

Communication campaigns use the media, messaging, and an organized set of communication activities to generate specific outcomes in a large number of individuals and in a specified period of time. It attempts to shape behavior toward desirable social outcomes. To maximize their chances of success, campaigns must coordinate media efforts with a mix of other interpersonal and community-based communication channels.

In answering the research question 1, “*What are the significant of carrying out communication campaign for sustainable resource development and commercial tree farming in Markham Valley?*” shows that PNG Biomass was able to facilitate various communication strategies which include community awareness through distributions of pamphlet, online and TV broadcast advertisement in order to disseminate information about sustainable resource development and commercial tree farming in Markham Valley.

In answering the research question 2, “*How do communication campaign strategies influence technology transfer, diffusion process and adoption behavior of resource owners and commercial tree farming in Markham Valley?*” was based on two concepts: technology transfer and diffusion process, and then adoption behaviors of farmers. The research findings for technology transfer and diffusion process shows that the most common and effective diffusion processes were observed from neighbor in which confirms that extension, adoption and development of the new technology through diffusion process have been based largely or guided what they see or hear from the other people next-door or the neighbors within the same community. The research into adoptions behavior of farmers reveals that the most people in Markham Valley were found to be early adaptors of agricultural innovation due to their social status or standing order in the community and also, they have financial capacity to meet the operational cost prior to the financial return. The early adopters were people who have more self-confident in the investment regardless of risk involved because they are well-informed about benefit of their investment by extension agent or either by agricultural professionals.

This research paper recommends that socially constructed communication campaign is more appropriate and convenient in the case of Markham valley as it express social value of the communication which can influence and manipulate mindset of the rural people in Markham valley about the potential of commercial tree farming. Communication campaign not value-based of a society may likely to fail because it will disturb the social structure of the society. In other words, communication campaign must suit and / or it must fits’ social context / or structure in order for the people in the society to accept the segment. This is because there may be high chances of message manipulated, influence and pursue the interest of the local people.

Acknowledgement

The authors would like to appreciate the help of the PNG Biomass team and the Markham Valley landowners for providing vital information toward the research study. The authors also would like to acknowledge PNG University of Technology Post Graduate School and Department of Communication and Development studies for their support during the research study.

References

- Atkin, C. K., & Rice, R. E. (2013). Advance in public communication campaigns. In, *The International Encyclopedia of Media Studies*, 526–551. Wiley-Blackwell. <https://doi.org/10.1002/9781444361506.wbiems129>
- Coffman, J. (2008). *Foundations and public policy grantmaking*. The James Irvine Foundation. Retrieved June 5, 2023, from <https://www.issuelab.org/resources/1349/1349.pdf>
- Dawadi, S. (2020). Thematic analysis approach: A step by step guide for ELT research practitioners. *Journal of NELTA*, 25(1-2), 62–71. <https://doi.org/10.3126/nelta.v25i1-2.49731>
- Gay & Lesbian Alliance Against Defamation (GLAAD) and the Movement Advancement Project (MAP). (2008). *Communications campaign best practices*. Retrieved June 7, 2023, from <https://www.lgbtmap.org/file/communications-campaign-best-practices.pdf>
- Kaur, P., Stoltzfus, J., & Yellapu, V. (2018). Descriptive statistics. *International Journal of Academic Medicine*, 4(1), 60–63. https://doi.org/10.4103/IJAM.IJAM_7_18
- Koczberski, G., & Curry, G. N. (2005). Making a living: Land pressures and changing livelihood strategies among oil palm settlers in Papua New Guinea. *Agricultural Systems*, 85(3), 324–339. <https://doi.org/10.1016/j.agsy.2005.06.014>
- Loeb, S., Dynarski, S., McFarland, D., Morris, P., Reardon, S., & Reber, S. (2017). *Descriptive analysis in education: A guide for researchers* (NCEE 2017–4023). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance. <https://ies.ed.gov/ncee/pubs/20174023/pdf/20174023.pdf>
- Pannell, D. J., Marshall, G. R., Barr, N., Curtis, A., Vanclay, F., & Wilkinson, R. (2006). Understanding and promoting adoption of conservation practices by rural landholders. *Australian Journal of Experimental Agriculture*, 46(11), 1407–1424. <https://doi.org/10.1071/EA05037>
- Rogers, E. M. (1995). *Diffusion of innovation* (4th ed.). The Free Press.
- Vaismoradi, M., Jones, J., Turunen, H., & Snelgrove, S. (2016). Theme development in qualitative content analysis and thematic analysis. *Journal of Nursing Education and Practice*, 6(5), 100–110. <https://doi.org/10.5430/jnep.v6n5p100>