

# An Exploratory Market Study of Brown Rice as a Health Food in the Philippines

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**Summary** : Brown rice has been known to be a health food containing more nutrients than white rice. This product has been reintroduced in the Philippines focusing on but not limited to its health values, since the consumption of brown rice also has positive economic and ecological effects. Many studies have documented the health benefits in consuming brown rice. Having known these benefits, this paper aims to determine the level of distribution and the motives and purchasing and consumption behavior on brown rice with the end view of overcoming barriers to and taking advantage of opportunities for its sustained demand. It was found that brown rice is available in both the Los Baños and Manila markets. The Manila outlets, however offer more brands, packaging sizes, and implement more aggressive marketing strategies as compared to the Los Baños outlets. The consumer research conducted in Los Baños revealed that health reasons motivate the buyers to purchase and consume brown rice. They consider nutritive value and organicity as important attributes of the product. The positioning of brown rice as a health product should therefore be strengthened through more information campaigns. The consumers generally liked the product and used this as a substitute for or mixed with white rice. However, their concern for health and their level of liking for brown rice were not directly manifested in their purchase and consumption behavior for the product. The current buyers are still occasional buyers and occasional users of brown rice. There are underlying issues beyond health that should be addressed like convenience in preparation and cooking, eating quality and availability. The general level of liking and the increasing familiarity of consumers with brown rice present opportunities that could be tapped. To deal with the issue in cooking time and eating quality, and to eventually sustain demand, more uses and products using brown rice as key ingredient have to be developed and introduced to the consumers.

**Key words** : brown rice, consumer research, purchasing and consumption behavior

## Introduction

In the past decades, the Philippine population has been expanding rapidly. With this population growth have come remarkable changes in food consumption behavior. The innovations in food processing influenced to a large extent the way consumers use or eat the products. In the early 1900s to the 1950s, Filipinos mostly consumed fresh and partially processed products. According to BURGOS<sup>1)</sup>, decades back, they only ate unhusked rice popularly known as “Pinawa” or brown rice. However, the introduction of modern pro-

duction and processing technologies changed the food consumption landscape in the Philippines, with people consuming more processed food products. After many years, though, consumers realized that there are many health benefits related to the consumption of fresh and minimally processed food. The increasing concern for health and food safety has caused a slow but continuing shift back to fresh products - even to organic ones which are relatively more expensive. There has also been reconsideration of low input foods among the consumers, these according to MIDMORE *et al.*<sup>2)</sup> mean all products which in the eyes of the consumers, appear

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healthy and natural or have been produced in a way which makes them so, and provides potential market substitutes for organic products. Consumption pattern has changed with the consumers' perception of quality and safety<sup>3)</sup>. This was even reinforced with the wide availability of health or natural food in the market. Consumers have become more nutrition conscious, more demanding and more discriminating in their food choices, hence their demand is driven by food safety concerns<sup>4)</sup>.

Food consumption behavior is an interesting area to look into, especially now that consumers have more options and are becoming more concerned with their health and environment. More and more studies have delved into health concerns and values of consumers. However, the ways consumers make choices in buying and consuming food are driven by several factors. According to VINDIGNI<sup>5)</sup>, consumers' choices in buying food are rather diverse and complex. She mentioned that in the case of organic products, there is no direct link between the consumers' attitudes and buying behavior, particularly when there is a conflict between environmental soundness and other consumer benefits such as convenience performances and various quality attributes and prices. This may also be true for brown rice in the sense that although brown rice is known to be a health food, the issues about convenience in cooking, different eating quality and higher price may serve as barriers to consumers' purchase and use. Several studies have already been conducted on brown rice but most of these are technical in nature focusing on the health advantages of brown rice over white rice<sup>6-8)</sup>.

In the case of the Philippines, the Asia Rice Foundation (ARF), in view of the increasing health consciousness and food safety concerns in the country, started to revive brown rice or "Pinawa" as one of the rice choices. Reintroduction campaigns to buy and consume brown rice have been implemented in Los Baños, Laguna since late 2000<sup>9,10)</sup>, and in Manila in the succeeding years.

It has been years since this initial reintroduction effort in the country. The realization of this effort lies on the continuing purchase and consumption of the buyers. An exploratory market study in Los Baños, Laguna was conducted focusing on the current distribution situation or availability of brown rice in the town and the consumers' purchasing and consumption behavior towards this product. Barriers and opportunities for sustained demand for this brown were also determined.

In addition to the market study in conducted in Los Baños, Laguna, this exploratory research on brown rice also made a preliminary investigation on the current

availability of brown rice in Manila since this is a major distribution area visited by consumers from different provinces and campaign activities for the revival of brown rice were also conducted in this city.

This research aimed to determine the consumers' motives and purchase and consumption behavior toward brown rice in Los Baños, Laguna with the end view of suggesting strategies for its sustained demand. This research also sought to determine the availability and distribution levels and strategies for brown rice in the Los Baños and Manila markets.

## Methodology

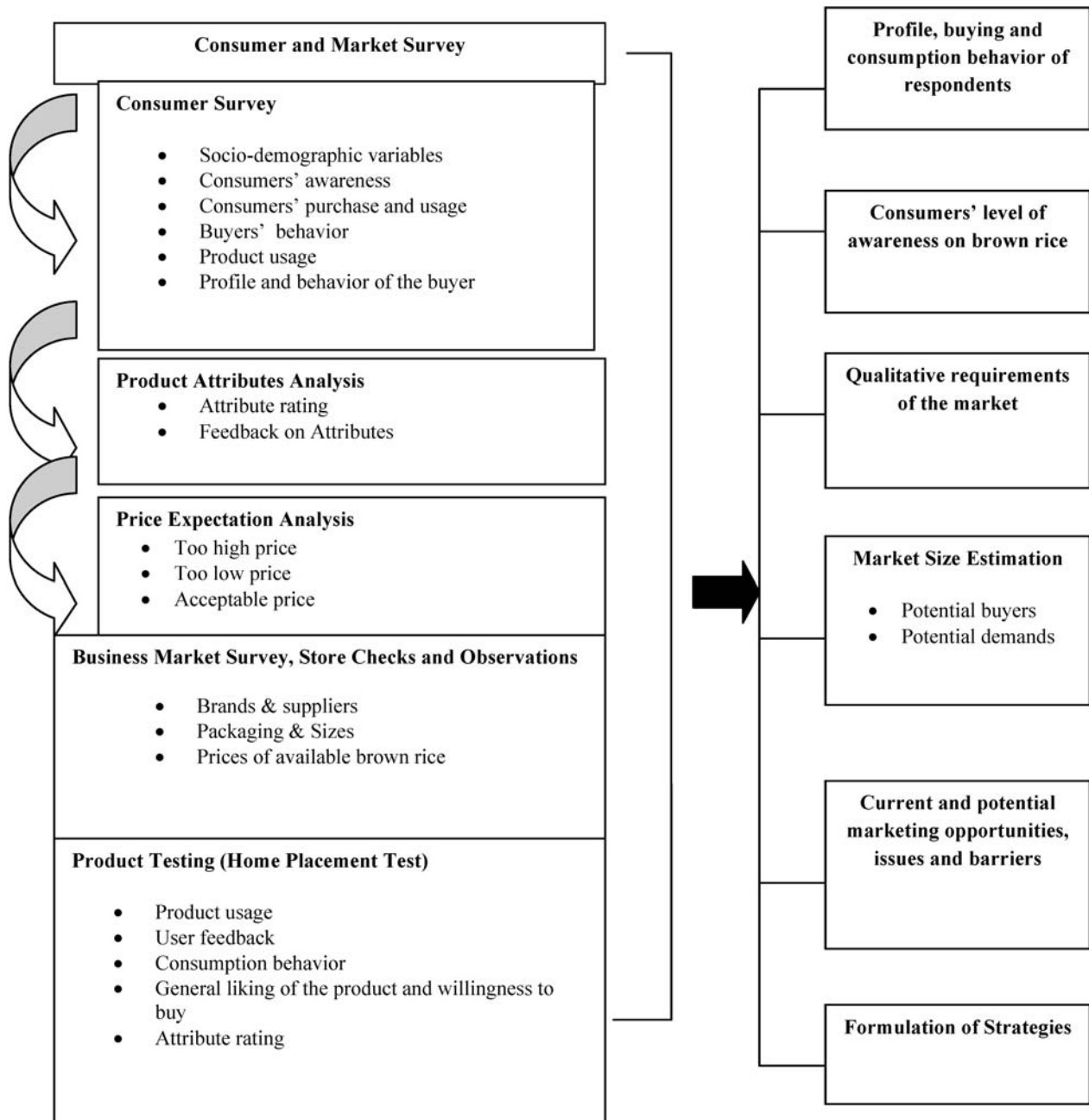
This exploratory market study consists of two parts. The first part which is conducted in Los Baños, Laguna consists of store checks, consumer survey, and home placement tests conducted in 2007. Store checks, a procedure for periodically gathering store outlet data<sup>11)</sup> were conducted among the supermarkets and selected distribution outlets for brown rice to gain insight on the levels of distribution or availability of the product in the study area. The store checks were supported by interviews of supervisors of selected supermarkets. Consumer survey was conducted among 50 brown rice users to determine their profile, level of awareness and familiarity, buying and consumption behavior and attitudes towards brown rice. Home placement/use test was also conducted among 40 non-users of brown rice to determine their consumption attitude towards brown rice and to elicit feedback on the attributes of the product. In relation to this, product attribute analysis was done to determine what the consumers want in brown rice, their relative importance and their level of liking towards the product. Price analysis was conducted to determine how much these consumers are willing to pay for brown rice.

The second part consists of store checks and interviews conducted in the Metro Manila supermarket chains and specialty stores in 2009 to obtain preliminary information on brown rice distribution. In-store marketing mix and indicative volume of brown rice were also gathered. An interview with one of the largest distributors of brown rice was also done to gather insights on the future potentials of brown rice.

This research is largely qualitative in nature. Qualitative analysis was used to gain a deeper understanding of the consumer purchasing and consumption behavior and motives. Figure 1 shows the analytical framework of the study.

## Overview of Brown Rice as a Health Food

**Brown rice** (or "hulled rice") is unmilled or partly



**Fig. 1** ANALYTICAL FRAMEWORK

milled rice, a kind of whole grain, a natural grain that remains unbleached. It has a mild nutty flavor, is chewier than white rice and becomes rancid more quickly<sup>12)</sup>. According to CHUA<sup>13)</sup>, brown rice has phytochemicals which are healthy biochemicals naturally found in plants. These serve to protect plants and animals from health damaging effects of oxidation on all structures, especially DNA. Brown rice is also rich in carbohydrates and in addition, it has protein, vitamins, fats, and minerals. The US FDA<sup>14)</sup> mentioned that brown rice being one whole grain food may help reduce the risks of heart disease and certain cancers. Since brown rice is 100% whole grain, one cup of brown

rice provides two or three recommended daily servings of whole grains. With these loads of nutrients, brown rice was also importantly mentioned as central to macrobiotic diet, a diet consisting mostly of whole grain and living foods<sup>15)</sup>.

Brown rice was considered as superior to white rice because of dietary fiber, B vitamins, minerals and anti-oxidant agents. Some of the not so favorable comments on brown rice include: coarse texture, dirty looking, chewy and gritty, longer cooking time and susceptibility of raw brown rice to weevils<sup>16)</sup>.

Demand for gluten-free product has been increasing because of a number of diseases related to gluten such

as attention deficit disorder, celiac disease, autism, irritated bowel syndrome and MS. This trend presents a good potential for brown rice because whole brown rice is gluten-free and considered to be one option for those who have celiac disease<sup>17)</sup>. In another study, it has been found that sprouted brown rice (also known as pre-germinated brown rice) could be used in controlling diabetes<sup>18)</sup>.

Brown rice can also be classified as a low input product and considered as an eco-food because it requires less energy to process thus consuming less power. There is less energy required because brown rice is minimally processed in that it passes the mill only once. According to JAVIER<sup>19)</sup>, the power saved due to polishing and whitening is around 65%. In addition, the milling recovery in brown rice is 10% higher as compared to white rice. The economic benefits are less milling cost and higher returns due to higher recovery. Another ecological advantage of brown rice is that unlike white rice which needs fortification, there is no need to fortify brown rice. According to Green Living Tips<sup>20)</sup> the fortification done by infusing synthetic vitamins from different chemicals in laboratories were known to have negative impact to the environment.

### Issues Related to Brown Rice

With more people having been used to consuming white rice, the reintroduction of brown rice could be a challenge. People habitually buy and consume white rice. A reason could be affluence associated with eating white rice. Even in the United States white rice is preferred over brown rice and part of the reason according to POLLAN<sup>21)</sup> is prestige as for so long a time, only the wealthy could afford refined rice. Although there were initial efforts of positioning brown rice as a health food which is consumed by richer people who are exhibiting healthy lifestyle, acceptance of the product is still a slow process. The main current underlying issue is how to effectively reintroduce brown rice and to effectively penetrate the habitual white rice consumers.

It is not only the current buying and consumption behavior towards white rice that serve as barriers to the increased brown rice consumption. Documentation regarding brown rice preparation revealed that it requires more water and takes longer to cook. Some resorted to soaking brown rice before cooking. There were also varied comments on the eating quality of brown rice.

Some like its gritty and nutty texture while others do not. Those who do not like the texture consider it coarse. The other issue is its shorter shelf life mainly

due to its fat content which makes it become rancid faster. Vacuum packing was found to be the solution to this problem but would also mean a high price due to high production cost. To avoid the cost of vacuum packing, brown rice should be dried further to a lesser moisture content. Brown rice could also be kept in refrigerators to maintain its eating quality<sup>22)</sup>.

## Results

### Brown Rice Distribution in Los Baños

A store check was conducted in the Los Baños markets to determine the availability and extent of distribution of brown rice in the town because it is one of the reintroduction take-off towns in the country. The store checks were done in supermarkets, specialty shops and public markets.

### Distribution in Supermarkets

Three major supermarkets were store checked: Walter Mart in Olivarez Plaza, Robinson's Supermarket in Brgy. Batong Malake and South Supermarket in Brgy. Maahas, Los Baños. All were selling not only brown rice but also white rice and other types of rice.

The three supermarkets carry different brand names of brown rice. Walter Mart carries the supplier's name of "NV Amparos Brown Rice"; South Supermarket, "Pecuaría Brown Rice", and Robinson's Supermarket, Jordan Farms. In Walter Mart, brown rice is available in 1-kg transparent plastic packaging with a small sticker bearing the suppliers name, rice variety and price. It has two available varieties: "Dinorado" and "Sinandomeng". South Supermarket, on the other hand, has 2-kg transparent plastic bag with colored front labeled with the brand name "Healthy Rice" Brown Rice at the Robinson's Supermarket is "Dinorado" variety, available in 5-kg packs in transparent plastic with the whole front labeled with the supplier's name.

The price of brown rice in Walter Mart depends on the variety. "Dinorado" is P35.50/kg while "Sinandomeng" is P35.00/kg. South Supermarket offers only one variety, which is not indicated and costs P77.00/2 kg. This is roughly the price of the "Dinorado" rice in Walter Mart at P35.00/kg. Robinson's Supermarket, on the other hand, sells the 5-kg pack for P193.50 or P38.70/kg.

Walmart is supplied with 25 kilograms of packaged brown rice every month. An interview with Walmart revealed that most of its buyers are foreigners.

The average price of brown rice in the supermarkets is P34.50. This average price is 43% higher than the price of white rice. These supermarkets usually receive consumer feedback mostly from new users, about the

product, such as chewiness, coarse texture and unattractive color.

#### Distribution in Specialty Shops and Public Market

Two specialty shops in Los Baños sell brown rice. One public market is also selling brown rice at a price much lower than what the supermarkets and specialty shops offer but it needs to be hulled manually first before cooking.

Based on interviews in two supermarkets and two specialty shops, “Dinorado” and “Sinandomeng” were the more common varieties of brown rice but “Dinorado” is the better seller. The above markets have regular supply of brown rice in their outlets. Walter Mart is supplied once a month with 25 kg of each variety and already packaged for retail. The other supermarket is also supplied every month, but supplied every month with one sack of brown rice equivalent to 50 kg and not yet packaged for retail. ARSTL shop, on the other hand, is supplied with 15 kg every week and packaged for retail.

The average sale of brown rice in Walter Mart is not known but the supply is usually in excess and most of its buyers are foreigners, and health-conscious people. Excess brown rice is returned to the supplier, but sometimes sold as surplus to its employees. The other supermarket’s supply is enough to meet the demand since it bases its supply from previous sales. Based on the interview in this supermarket, the sales of brown rice decreased from January 2006 and January 2007 causing a decline in its brown rice supply. This results in consumers’ complaints when the stocks run out. In the Practical Shop, the average sale of brown rice is 5–10 kg per week and the supply is usually sufficient, but sometimes in excess for the whole month. ARSTL Enterprise sells an average of 5–10 kg of brown rice.

### Consumer Research in Brown Rice

#### The Respondents

The consumer survey respondents consisted of brown rice users. They are predominantly female, 40 years old and above, are married and have household size of 4–5 members. They are mostly college graduates with many having post-graduate degrees, are employed and mostly earning at least P15,000 a month.

The home placement test respondents have not yet tasted or used brown rice. Basically, they have the same demographic characteristics as that of the consumer survey respondents (Table 1).

In addition to the above demographic characteristics, forty percent of the respondents said that they believed that they are exhibiting a healthy lifestyle.

**Table 1** Demographic Profile of the Respondents

Demographic Profile	Consumer Survey	Home Placement Test
Gender	84% female	90% female
Civil status	82% married	86% married
Age – 20 years old and above	mostly 40-59 years old	Mostly 40-59 years old
Educational attainment	mostly college and post-graduate	Mostly college and post-graduate
Monthly Income	mostly P15,000 and above	mostly P15,000 and above
Household size	mostly 4-5 members	mostly 4-5 members
Occupation	all employed government and private employees)	all employed (government employees)

They indicated that they diet, exercise, choose health and right food, have no vices and are contented in life.

#### Awareness and Familiarity with Brown Rice

All of those who participated in the consumer survey were aware and familiar with brown rice since they have all used it. A number of them are also aware of other rice types like red rice, black rice, purple rice and glutinous rice. Most of them became aware of the product through the supermarkets. Others came to know the product through organic gift shop and through rice retailers. Some became aware of the product through the producers and media sources like journals, and promotion programs sponsored by IRRI. The home placement test respondents, on the other hand, were not aware of brown rice.

#### Purchase and Consumption of Brown Rice

The demand for brown rice in Los Baños is generally not stable as shown by the more than 60% of the respondents rarely buying the product. Those who were buying on a more regular basis purchased once every two months, once a month or once every two weeks. Considering that the most common packaging of brown rice is one to two kilogram-packs, the total purchase volume could be relatively low. The mentioned reasons for the occasional purchasing were high price and unavailability.

In terms of consumption, more than one half of the respondents were occasional users of brown rice. Only 26% used it as a staple food just like white rice. During the time of survey, more than half (60%) of the respondents were not actually consuming brown rice and do not have it in their homes. Majority (98%), however, indicated that they will continue to use brown rice.



**Table 2** Purchase and Consumption Behavior on Brown Rice

Purchase and Consumption Behavior	Particulars
<b>Purchase</b>	
Frequency of Purchase	Rarely (60%), once in two months, once a month, once in two weeks
Volume of Purchase	Mostly 1 and 2 kilogram packs
Place of Purchase	Supermarkets, private producers, organic shops
<b>Consumption</b>	
Consumption/Use	Currently using (40%); not currently using (60%)
Planned Use	Continue/use again (98%); Discontinue/not use (2%)
Frequency of Use	Occasional (74%); Regular (26%)
Usage	Consumed in meals as pure brown rice (67%) Consumed in meals mixed with white rice (22%) Used as ingredients in food preparation (11%)

Many of the respondents cooked brown rice as plain rice. A number mixed it with white rice. The other respondents used it for specific preparations like chocolate porridge and rice-based dessert (Table 2).

### Brown Rice Attribute Importance Rating

Consumers look for important attributes or qualities in buying and cooking brown rice. Wholeness of grains, cleanliness, shelf life and organicity (being organic) were cited as important attributes of raw brown rice. They also rated these attributes according to level of importance. Cleanliness was mentioned by many respondents as the most important attribute for brown rice. Upon rating, however, organicity came out to be the most important attribute with rating of 4.84. However, it could be noted that although rated highly, less than one half of the respondents cited this as an important attribute. Organicity was followed by cleanliness and longer shelf life. Color was given the lowest rating although consumers still regard this as an important attribute. Given the highest rating for organicity, it could be deduced that consumers place a premium on the health benefits that could be derived from brown rice (Table 3).

In cooked brown rice, nutritive value was most important to the consumers followed by eating quality,

**Table 3** Importance Rating for Raw Brown Rice Attributes

*Attributes	Attribute Rating					Mean Rating
	5	4	3	2	1	
Color	14	16	5	13	2	3.54
Wholeness of Grains	21	19	2	8	0	4.06
Cleanliness	32	13	0	4	0	4.46
Shelf Life	27	14	4	4	1	4.24
Organicity	16	3	0	0	0	4.84

\*Some had no answers

Legend:

- 5 – Very Important
- 4 – Important
- 3 – Indifferent
- 2 – Unimportant
- 1 – Very Unimportant

**Table 4** Importance Rating for Cooked Brown Rice Attributes

Attributes	Attribute Rating*					Mean Rating
	5	4	3	2	1	
Aroma	14	9	1	5	-	4.26
Color	3	13	1	12	2	3.44
Texture	12	9	4	7	-	4.08
Taste	16	7	7	6	-	4.24
Nutritive Value	40	10	-	-	-	4.78
Eating Quality	15	11	1	5	-	4.36
Glycemic Index	1	-	-	-	-	5.0

\*some had no answers

Legend:

- 5 – Very Important
- 4 – Important
- 3 – Indifferent
- 2 – Unimportant
- 1 – Very Unimportant

aroma and taste. Eating quality was defined as the enjoyment of eating brown rice and is tied to the overall taste and texture. The texture of brown rice was considered by the consumers as rough but it has a distinct taste which they enjoyed. Color was not that important to the respondents (Table 4).

### Home Placement Test Results

Product testing was done through home placement. One kilogram of rice each was distributed to selected households for trial. Both raw and cooked brown rice were tested and evaluated by the households within a period of one week (Tables 5 & 6). The purpose of product testing was to determine the consumption behavior of the respondents and their attitude towards

**Table 5** Attribute Evaluation of Raw Brown Rice

Attributes	Rating*					Mean Rating
	5	4	3	2	1	
Color	6	11	16	6	1	3.375
Wholeness of Grains	13	15	12	0	0	4.025
Cleanliness	2	19	16	3	0	3.50
Organicity**	21	3	2	0	0	4.73

\*5 the highest and 1 being the lowest level of liking

\*\*Some did not give ratings.

**Table 6** Attribute Evaluation of Cooked Brown Rice

Attributes	Rating*					Mean Rating
	5	4	3	2	1	
Taste	9	11	11	8	1	3.475
Aroma**	12	9	10	8	1	3.575
Color	10	7	16	6	1	3.475
Texture	6	12	13	9	0	3.375
Eating Quality	11	9	14	5	1	3.60

\*5 being the highest and 1 being the lowest level of liking

\*\*Some did not give ratings.

the product. This also aims to generate feedbacks about brown rice.

Almost all of the respondents cooked and consumed brown rice in the same way as that of white rice. Only a few used it in specific food preparation such as in "chamorado" (a rice-based snack cooked with cacao chocolates). It is noticeable however that within the home placement period, most of the respondents were not able to consume the 1 kilogram brown rice given to them. This may indicate the non-preference attitude to brown rice during the product testing period. Also, since it is their first time to try brown rice, the longer cooking time and the gritty texture is new to them.

After the trial period, the respondents evaluated brown rice by giving it scores from 1-5 with 5 being the highest. A score of 1 means that the product was disliked very much while a score of 5 means that it was liked very much.

The highest rated identified attribute of brown rice was it being organic, which was also the same attribute which was rated as the most important in the consumer survey. However, unlike in the consumer survey, home placement test respondents rated wholeness of grains higher as compared to cleanliness.

In cooked brown rice, eating quality was rated the highest followed by aroma.

As to the overall level of liking, one third of the respondents were indifferent, meaning they neither

**Table 7** Respondents' Overall Rating for the Product

Rating	No. of respondents	Percentage (%)
5	8	20
4.5	2	5
4	13	32.5
3	14	35
2	3	7.5
1	0	-
Total	40	100

liked nor disliked the product. More than one half of the respondents liked brown rice. The average rating given by the respondents was 3.73 which indicated a general liking for the product (Table 7).

### Feedback on Brown Rice

The positive feedback was that brown rice is more filling, has good aroma, mild taste and that it is good. The negative feedback was it takes longer to cook, grainy, smells like rice hull and is not liked by children.

### Price Expectation

Price expectation test was conducted to determine the price that the respondents are willing to pay for a kilogram of brown rice. The price given by the respondents ranged from P20.00 to P45.00 per kilogram. Many respondents were willing to pay at P30.00 and P35.00 per kilo. It could be seen that more are willing to pay at P30.00 price level and higher. These prices match those that are currently charged by the supermarkets and specialty shops.

### Distribution of Brown Rice in Metro Manila

Preliminary store checks conducted in the major supermarket chains and specialty stores in Metro Manila revealed that brown rice is available in sizeable quantities. This is an indication that there is an existing good market in these areas.

Brown rice available in Metro Manila markets also come in different types and are either labeled as organic, regular, pesticide free, short grain, medium grain, long grain etc. It is available in 300 grams, 800 grams, 2 kg and 5 kg packs. Supplies in Metro Manila are mainly sourced from local producers from Nueva Ecija and Laguna traders/distributors. Imported brands from the U.S. are also available.

The top three brown rice suppliers are Sunnywood Superfoods Corporation ("Harvester's Jordan Farms", "Healthy You"), SL Agritech Corporation ("Doña Maria Jasponica and Miponica") and Upland Marketing Foundation (F&C Farms and Cottages). There are 9 local and three foreign distributors carrying 14 brands

of brown rice.

Local brown rice is packed in transparent plastic pillow packaging. One packaging innovation is the easy to carry 5 kg plastic bag with the brand name Jordan Farms. This type of packaging was introduced by one of the major suppliers, Sunnywood Superfoods Corporation. Brown rice brands such as Doña Maria, Harvester's and Jordan Farms are packed in vacuum packs. Vacuum packs have been proven to increase the shelf life of brown rice. Imported brown rice, on the other hand, is available in transparent plastic stand up pouches for 765 gram-pack available in specialty stores and in transparent pillow packs for the 454 gram-pack available in selected supermarkets. Brands or product labels are usually printed in plastic packaging except for "Healthy You" and "Healthy Alternative" that still use sticker labels.

### **Distribution in Manila Supermarkets**

With the consumers' preference for one-stop shopping, supermarkets have continuously been drawing a large number of customers making these establishments good market outlets for a lot of consumer products. Supermarkets are among the major buyers and sellers of brown rice. Supermarket branches can be found in strategic locations in Metro Manila, as well as in key cities and highly populated areas outside Metro Manila. The three leading supermarkets in the country are SM, Robinson's and Rustan's/Shopwise. They have branches in Metro Manila and in some key cities and provinces. These three accounted for 71% of the gross revenues of the leading supermarkets in 2006 as listed in the Philippines' Top 1000 Corporations.

Aside from the big three, there are many other supermarkets, which also carry a variety of products, including brown rice. Among these supermarkets are Landmark Supermarket, South Supermarket, Puregold Price Club, Makro and Waltermart. Among the high-end supermarket outlets in Metro Manila are: Rustan's Fresh near the entrance of Corinthian Hills, Temple Drive Quezon City. There are also branches in Katipunan Loyola, Greenbelt 1 Makati, Shangri-La Mall Ortigas and Power Plant Mall Rockwell Center Makati. These high-end mini-supermarkets are located in the vicinity of the upper class subdivisions, villages and malls.

Supermarkets source their supply of brown rice from local producers and distributors and a few from importers. Imported brown rice comes from the United States. On the other hand, local brown rice sources include but not limited to Laguna and Nueva Ecija.

Purchasing agreements are usually entered into with rice suppliers. Orders are commonly done on a weekly

basis through phone, fax, email or business-to-business (B2B) system. Some orders are consolidated while others are done on a per store basis. Deliveries usually arrive weekly. For some SM branches, for example, two times per week delivery of brown rice is also done usually Tuesdays and Thursdays. Delivery is either in sacks or in carton boxes. Payment is made 30 days from receipt of rice delivery.

Supermarkets are open to new products or other rice variants either through firm supplier or distributor. Rice available varies from white, brown, red, violet, pink, black, etc. The general process of getting the product into the store is to submit a sample product together with the proposed price and terms. It will be compared and evaluated with existing products in terms of the product itself, packaging, price, payment terms, and marketing program of the supplier. There is no standard arrangement that applies to all. SM, for example, has a buying committee who approves the transaction.

Other supermarkets have certain considerations before accepting new products into their stores. These can include average sales in existing outlets, marketing support, product acceptability, nutritional facts, and certificate of product registration from BFAD. These considerations, however, vary from supermarket to supermarket.

### **Prices**

Brown rice prices vary from one supermarket to the next, depending on the location, the size of the supermarket, the supplier, the clientele, and the time of the year, among others. Prices also vary depending on the brand, the variant (e.g. regular, organic or premium), among others. The price of local brown rice ranged from P44/kg to P55/kg. These prices are higher than the price of white rice by at least 46%. In general, prices of two-kilo pack ranged from P92.50 to 165.50. On the other hand, prices for bigger 5 kg-pack are mostly within the range of about P229.50 to P359.50.

Selected supermarkets like Metro Market Market in Taguig also carry imported brown rice from the United States. The variants include whole grain brown and California brown rice available in relatively smaller packs of 300 grams compared to the common 2 kg and 5 kg packs. Imported brown rice is displayed in shelves side by side with the local brands. The imported brand is also quite pricey at P375.50 per 454 grams. The brands available are "Lundbberg Countrywild" whole brown grain rice packed in 454 gram-pillow plastic packs and "Tsuru Mai California" brown rice also available in pillow plastic packs at a much lesser price of P 66.75 per pound.



Also available in smaller packs of 300 grams is the “Doña Maria Jasponica” brown rice. It is available in Makati Supermart. It is displayed side by side with other variants and size of Doña Maria. Jordan Farms brand also came up with an 800 gram-pack also available in plastic pillow vacuum pack.

Although most brown rice comes in packaged form, there are also those that are not pre-packed. These are mostly placed in wooden rice boxes or individual round containers at SM (which also sells the unbranded brown rice by LMC Real) and Savemore Supermarkets. Other supermarkets like Rustan’s, Shopwise, Metro Market Market and Robinson’s use transparent plastic boxes. These supermarkets sell brown rice on a per kilo “takal” basis or based on the requested volume by the customer.

Brown rice for takal at SM and SaveMore Supermarkets is labeled as “Brown Organic Healthy Diet Rice” and “Diet Whole Food Rice” or “Brown Healthy Rice” available at P55/kg and P51/kg, respectively.

Metro Market Market also sells brown rice in takal form. Available for sale per kilo is the Farmer’s Choice brand and the unbranded brown rice labeled as *pinawa* which is sold at a cheaper price of P44/kg compared to P44.50/kg for the Farmer’s Choice brand. Available in takal form at Shopwise Supermarkets is the Mrs Lam brand sold at P53.25/kg.

In terms of volume, SM Supermarkets have the highest volume display of brown rice. SM also provided consumers with a wider brand selection for brown rice. Volume of brown rice display is comparable to that of red rice. Red rice sales directly compete with brown rice sales.

Volume of brown and red rice displayed ranged from 10% to 20% of total rice display on supermarket shelves. Each brand normally has 20 to 30 packs on display. White rice accounted for 80 to 90% of total. There is minimal display for other rice variants e.g. violet, pink, or black.

### Promotion Strategies

Supermarket and distributors capitalize on health values in promoting brown rice. They use slogans and brand names which signify health and encourage people to exhibit healthy lifestyles. They also designate certain areas in the store as health section. Example of a slogan is “Eat well, spend less” of Robinson’s Supermarket.

Robinson’s also provided information label for healthy rice. Information on the benefits of consuming brown rice or organic rice is printed on a half size bond paper in full color and laminated. Rustan’s, on the other hand,

use “New Item Tag” to encourage customers to try the product. The newly introduced black rice of Healthy Alternative brand was tagged with new item at Rustan’s with the price indicated on the tag when the store check was conducted.

Aside from selling the health benefits of brown rice, supermarkets also usually offer price discounts for brown rice and other specialty rice. For example, SM has what it calls its “Yellow Tag specials” while Robinson’s has “Apple Tag specials,” which provide buyers with discounts and premiums. Robinson’s also has the super saver label to attract more consumers to buy. The “Doña Maria Jasponica” brown rice offered at a discounted price of P350 for the 5kg pack as the yellow tag special at SM Supermarkets during the store check period. The “Healthy You” brand was also placed at the super savers shelf of Robinson’s. Shopwise also came up with price discounts for the “Doña Maria Miponica” brand tagged as “Save Big Regular Price P352.00 Now P318.00. On display was 250 packs of 5 kg pack available at a discounted price.

### Distribution in Manila Specialty Stores

Aside from supermarkets, brown rice is also available in specialty stores. Among these are those that supply healthy-natural foods like Healthy Options. Major brands of brown rice available are Arrowhead Mills and Bob’s Red Mill. Both imported from the United States.

### Potentials and Barriers for Brown Rice Demand

Both the distribution study and consumer research in Los Baños present potentials for increased brown rice consumption. The market is becoming aware of brown rice through its availability in the supermarket and through some information campaigns by concerned agencies. The promotion strategies of the supermarkets and specialty stores, though minimal may encourage non-buyers to buy. The consumer research results have shown that brown rice is generally liked and that although purchasing and consumption is still occasional, the consumers intend to continue its use or consumption. One of the interesting findings in terms of usage of brown rice was that a number of consumers were found to mix brown rice with white rice. This presents an opportunity for the brown rice producers to also offer mixed brown and white rice in their product mix. This offering will encourage the non-brown rice buyers to try the product.

An interview with one of the biggest distributors of brown rice cited that although brown rice sales is only 10% of white rice sales, brown rice demand has grown

by almost 200% this year compared to last year (2008). This distributor, which is selling through the different supermarkets in Manila, indicated that they can now sell 350–400 tons of brown rice, as against only 150 tons in 2006. He indicated though that while brown rice demand is picking up, the major barrier is still the acceptance of brown rice in the market. Many who do not like the taste commented that it tastes like old rice. There were also complaints regarding its texture which is harder than white rice. The current positioning of brown rice as health food presents both an opportunity and a barrier. The increasing health-consciousness of the market will positively impact on the demand for brown rice. On the other hand, the current positioning is associated with higher prices. This may present a barrier for penetrating the lower segment of the market.

### Conclusions and Recommendations

Store checks in the Los Baños markets showed that brown rice is available in the major supermarkets, specialty shops and other distribution centers in the town. Each distribution outlet carries at least one brand of brown rice with “dinorado” and “sinandomeng” as the most popular varieties. Brown rice in these stores is mostly packed in 2 kg packs and is priced at around 43% higher than white rice. The buyers of brown rice in many of these stores were foreigners and health conscious people.

The existing consumer market of brown rice in Los Baños is primarily motivated by health reasons as revealed by the importance that they attach to organicity and nutritive value of the product. Brown rice is generally accepted or liked by this market. However, the demand is still small and unstable as shown by the occasional buying and consumption of the product. Although based on ratings, there was a general liking for brown rice, the occasional purchasing by consumers and the fact that many of those who participated in the home placement test were not able to consume the 1 kg pack of brown rice given during the one-week trial period indicated the non-preference of brown rice. This could be attributed to the longer cooking time and the eating quality based on the given consumers’ feedbacks and the For those who participated in the home placement test, product familiarity is also an explanatory factor since it they are not used to the gritty texture of brown rice. Better technology in cooking to hasten cooking time and improve eating quality is therefore necessary.

The increasing health consciousness of the market will still be the major driver of demand for brown rice. The current level of familiarity and acceptability of

brown rice in the Los Baños market presents potentials for increased demand for the product. The price sensitivity test revealed that the price expectations of the respondents match with the prices that are charged by the supermarkets and specialty shops. This is explained by the fact that most of the respondents have higher income. However, the low level of demand and the irregularity of purchase of brown rice in Los Baños necessitate increased availability and more aggressive promotion strategies in strengthening the positioning of brown rice as a health food. This positioning is associated with a higher price as compared to that of white rice. The supermarkets and specialty shops which are the most important outlets for this product may serve as venues for information dissemination regarding the nutritional value, improved cooking methods and keeping quality or preservation of raw brown rice in collaboration with the producers and suppliers. In addition to increasing demand of brown rice through supermarket and producer/supplier collaboration, sustained demand for brown rice will be realized if more processed products will be produced using brown rice as a major raw material. The producers may also offer brown rice mixed with white rice as an alternative to white rice and as another part of their product mix.

In the Metro Manila markets, the number of outlets, brands, packages and promotion strategies are good indicators that the market has really taken off. Although the percentage of sales of brown rice is only a small fraction of that of white rice, brown rice demand is growing fast and is forecasted to grow faster if more health information campaigns will reach more markets. Brown rice has already been reintroduced by positioning it as a health product and as a high priced item thus creating an image of prestige. There is still a need for increased information campaign and education on brown rice to increase current demand. The proliferation of supermarkets in Metro Manila and Los Baños will serve as an important driver of demand since supermarkets do not only provide information but also make brown rice accessible to more buyers. A consumer research should also be conducted in Manila to determine qualitative and quantitative requirements for brown rice. A further research on the economic and ecological benefits of producing brown rice may also be done with the end view of determining their positive effects on brown rice consumption behavior.

### References

- 1) BURGOS, J.G. (2001). “Brown Rice : Forgotten Health Food” Brown Rice Campaign in the Philippines. Asia Rice

- Foundation.
- 2) MIDMORE, P., NASPETTI, S., SHERWOOD, A.M., VAIRO, D., WIER, M. and ZANOI, R. (2005). Consumer Attitudes to Organic and Low input Foods : A Review., 1.
  - 3) REGMI, A. (2001). Changing Structure of Global Consumption and Trade. USDA Agriculture and Trade Report. WRS-01-1., 1.
  - 4) LOHR, L. (2001). "Factors Affecting International Demand and Trade in Organic Product. Changing Structure of Global Food Consumption and Trade. WRS-01-1., 1.
  - 5) VINDIGNI, G., JANSSEN, E. and JAGER, W. (2002). Organic Food Consumption. A Multi-theoretical Framework for Consumer Decision-Making. *British Food Journal*. **104** (8) 626. <http://www.emeraldinsight.com/0007-070X.htm>
  - 6) HINDUISM TODAY (2001). "Why Brown Rice is Healthier.
  - 7) JAVIER, E.Q. (2004). "Let's Promote Brown Rice to Combat Hidden Hunger. *Rice Today*. International Rice Research Institute.
  - 8) USDA NUTRITIONAL DATABASE. USDA Agricultural Research Service.
  - 9) UBAC, M.L. (2008) "Palace : Switch to Brown Rice". *Philippine Inquirer*.
  - 10) PABLICO, S.M. (2009) "Experts Urge Consumers to Eat More Brown Rice" *The Philippine Star-Agriculture Section*.
  - 11) ROBERTO, E.L. (1996). *User-Friendly Marketing Research*. Life Cycle Press Asia.
  - 12) THE ASIA RICE FOUNDATION 2001. "Brown Rice : Beyond the Color. A public campaign material.
  - 13) CHUA, P.S. (2009). "Brown Rice : A Healthier Choice". *Pinoy Herald*. Online Edition. <http://www.pinoyherald.org/columns/health/heart/heart/brown-rice-a-healthier-choice.html>
  - 14) USDA NUTRITIONAL DATABASE. USDA Agricultural Research Service.
  - 15) SMITHSONIAN NATIONAL MUSEUM OF HISTORY : Division of Medicine and Science. "Health Food : Macrobiotic Brown Rice. <http://americanhistory.si.edu.collections/object>. (Retrieved : November 12, 2009).
  - 16) THE ASIA RICE FOUNDATION 2001. "Brown Rice : Beyond the Color. A public campaign material.
  - 17) PACKAGED FACTS (2009). *The Gluten-Free Food and Beverage Market : Trends and Development Worldwide*. 2<sup>nd</sup> edition.
  - 18) THE AUGUSTA CHRONICLE. (2008). <http://www.chronicle.augusta.com/stories.072808/met-467351.shtml>
  - 19) JAVIER, E.Q. (2004). "Let's Promote Brown Rice to Combat Hidden Hunger. *Rice Today*. International Rice Research Institute.
  - 20) GREEN LIVING TIPS (2007). "Brown Rice Versus White Rice.
  - 21) POLLAN, M. (2008). *In Defense of Food*. The Penguin Press., 106.
  - 22) REFORMA, M.G.L. (2007). *Market Study of Brown Rice in Los Baños Laguna*. Special Problem in Agribusiness Management. U. P. Los Baños.

# フィリピンにおける健康食品としての玄米に関する市場調査研究

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要約：玄米は白米よりも栄養分を多く含んでいる健康食品として知られている。玄米は、その消費による健康面の効果だけではなく、経済的かつ生態的な面でも効果を有している点においても評価されており、フィリピンでも再び見直されてきている。多くの研究が玄米消費による健康上の利点を証明している。それらの利点はよく知られているのであるが、本稿では、玄米の需要維持に関する障壁の克服と玄米需要の機会増進という目的の達成とともに、玄米流通のレベルと消費動機、玄米の購買行動と消費行動について明らかにすることを研究目的とする。玄米はロスバニオスとマニラの市場において入手することができる。しかし、ロスバニオスの小売店と比較して、マニラの小売店においては、より多くの銘柄や包装サイズのもので提供されており、より積極的なマーケティング戦略が実施されている。ロスバニオスにおいて実施した消費者調査では、健康維持への動機が消費者を玄米の購入・消費に導いている。彼らは、玄米の重要な属性としてその栄養価値と有機物性を重要視している。健康食品としての玄米のポジショニングは、それ故により多くの情報活動を通して強化しうる。消費者は一般的に玄米を好み、白米の代替品として利用し又は白米と混ぜて利用していた。しかしながら、彼らの健康への関心と玄米に対する嗜好レベルは、彼らの玄米に対する購買行動と消費行動には直接的に表れていない。現在の消費者は、まだ玄米のいわば偶発的な購買者であり利用者であるに過ぎない。調理や料理、食の質・食感、効用の点における便益性のような抽象的な健康の範囲を越えた議論が必要である。玄米に対する一般的な嗜好レベルと消費者の知識の向上は、玄米に関する需要開発の機会の可能性を示している。長い調理時間と食の質・食感に関する問題点を処理するため、また最終的に玄米需要を維持するためには、玄米を主たる原材料、基本的な原材料として利用しうるより多くの調理・加工方法が消費者のために開発され導入されなければならない。

キーワード：玄米、消費者調査、購買・消費行動

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