Visitors' Perceptions of Cultivation Technology Innovation in Agro Innovation Park, BPTP Jambi

S Edi and Rustam
Assessment Institute for Agricultural Technology (BPTP) of Jambi
Jl. Samarinda, Paal V Kota Baru, Jambi City, Jambi 36129
e-mail: edisyafri@gmail.com

Abstract. Agro Innovation Park is a forum for developing various superior technologies from the Agricultural Research and Development Agency. The services provided are complemented by a library, a consultation area, a training arena, and a playground. This study aims to determine visitors’ perceptions of several technological innovations implemented. The data presented are in the form of park arrangement, various technological innovations, number of visitors, perceptions of visitors, and apprentices in 2018, 2019, and 2020. The Agro Innovation Park is located in Sungai Tiga IP2TP office area, Pondok Meja Village, Mestong District, Muaro Jambi Regency, Jambi Province. This park was built in 2015, having several types of plants with various adaptive and innovative technologies, ranging from short-lived plants such as leaf-producing vegetables, medium-aged plants such as fruit-producing vegetables, and long-lived plants such as perennials, and also equipped with medicinal plants. There was an increase in the number of visitors and internship students from 2018 to 2019, but there was a decline afterward. This happened due to the Covid-19 pandemic resulting in the temporary closure of parks for visitors and apprentices. The findings indicate that in terms of the service provided, 20% of the visitors were satisfied and 80% said that they were very satisfied. For the various technological innovations implemented, 88% of the visitors stated that they were very interested in park management and 75% were very interested in hydroponic technology innovations.

Keywords: Perception of visitors, cultivation technology, Agro Innovation Park

1. Introduction
Agricultural Research and Development Agency has employed two approaches in carrying out its tasks, namely scientific recognition and impact recognition. To achieve impact recognition, dissemination needs to be conducted. Based on the model developed by the Agricultural Research and Development Agency, dissemination is done through various channels or the Multi-Channel Dissemination Spectrum (MCDS). This philosophy shows that the learning process for farmers must be carried out in a systematic, complete, simple/applicative, and participatory manner by optimizing the performance of the five senses. Participatory learning by doing is the right learning method, because not only do farmers hear or see, but they also implement, evaluate to make judgments (to find), make choices, adapt, and diffuse site-specific technologies. Through this method, it is expected that farmers who can play a role like a researcher and extension worker will be more creative and innovative [1].
One of the dissemination media used by the Agricultural Research and Development Agency in accelerating technology transfer to users is by building an Agro Innovation Park. It is a vehicle for stakeholders, students, farmers, and other agricultural communities to learn and obtain information on agricultural technology i.e. food crops, horticulture, plantations, and animal husbandry. Agro Innovation Park is expected to be the right medium to change the attitude of the community, motivate the agricultural community, and increase their knowledge and skills so that the community will adopt the innovations in Agro Innovation Park [2].

Without dissemination, the technology will not provide benefits as farmers are reluctant to use it [3]. Dissemination of research and assessment results can be done in the form of technology degrees, technology components, technology packages, data and information formulas, and alternative development policy recommendations [4].

Taman Agro Innovation develops from various superior technologies of the Agricultural Research and Development Agency on a compact and strategic area around the office, as well as a source of stock seeds. As a location for visiting potential technology users, it is equipped with library services, consultation, and a training arena. The Innovation Agro Garden is the development of a Core Seed Garden and level IV of a sustainable food house area in the form of agro-tourism [2].

To transfer technology, the Agency for Agricultural Research and Development has used various media for promoting the technology produced, both to farmers and breeders, the private sector, and other users. Dissemination activities need to be carried out through appropriate and sustainable media. Dissemination activities are not just the dissemination of agricultural information and technology, but farmers are expected to be able to adapt and apply the results of research on agricultural business so that they can improve their welfare [5]. The science and technology produced by the Agricultural Research and Development Agency will be useful if they can reach and be applied by those who need them [6]. For this reason, the Assessment Institute for Agricultural Technology (BPTP) requires effective and efficient information, also a communication system and dissemination so that the user community can obtain information technology that they need easily and quickly.

2. Agro Innovation Park in Order

Agro Innovation Park (Tagrinov) Jambi Agricultural Technology Research Institute (BPTP) is located in the IP2TP Sungai Tiga office area, Pondok Meja Village, Mestong District, Muaro Jambi Regency, Jambi Province, integrated with the Sustainable Food Torch (OPAL) of the Indonesian Ministry of Agriculture [7]. This park was established in 2015, having several types of plants with a variety of adaptive and innovative technologies, ranging from short-lived plants such as leaf-producing vegetables, medium-aged plants such as fruit-producing vegetables, and long-lived plants such as annual plants and equipped with plants. drug. The lower part of the park has children playing area with a circle or banner measuring 4 x 20 m. The images on this banner are replaced every year with the new ones, presenting pictures of visitors and activities in the park. They also display sentences that recommend visitors to always consume vegetables and use the yard for plant cultivation. At the top, a net is installed to reduce the sunlight, so that it feels cool and comfortable under the net [8].

As a place to visit and educate people, this park is equipped with a nursery unit, a playground, a hydroponic hut, a circular seat made of walls and used car tires, and a meeting place for huts. Because the place is uneven, the garden is made tiered, making terraces that can be planted with various types of plants. The garden arrangement is made as beautiful and comfortable as possible so that it makes visitors feel at home and want to come back to gain knowledge and do various activities [9].

Planting flowers (refugia) with different colors also adds the atmosphere of beauty and comfort. This flower not only gives a more beautiful nuance to the garden area but also functions as a trap and is able to reduce pest attacks on plants. This is also an innovation for visitors. It turns out that Marigolds flowers and the like are useful for controlling pests in vegetable crops, said every visitor who comes to the park. In addition to controlling pests and diseases using trap plants in the Agro Innovation Park, fly glue, yellow traps, and petragenol are also installed which reduce and prevent pest attacks on plants.
At the entrance to the Agro Innovation Park, a gate is made which reads "Welcome to Agro Innovation Park of Assessment Institute for Agricultural Technology (BPTP) Jambi, Wahana Agro Education". At the same time, it is a connecting road between Agro Innovation Park and the OPAL Park, with a road of 3 m wide and 30 m long. The left and right sides of this road are planted with ornamental plants and the top are installed with umbrellas and hats which are painted colorfully. This makes visitors happy and feels comfortable and they do not want to miss taking selfie moments. The OPAL Park displays 3 different hydroponic modules as well as education for visitors, with the background writing "OPAL BPTP Jambi". Two seating units, chairs, and tables were made using used car tires. They are placed between longan plants so that the seat is protected and cool. Colorful flowers are planted around the garden, which gives a beautiful impression. You can see in the distance the office of the Agricultural Training Center with green trees, rubber, and oil palms. On the left side of the OPAL Park, there is a meeting hall and on the left is a prayer room, while the front is some offices and a Sungai Tiga IP2TP laboratory. Between the laboratory and the hall, there is a vacant lot that has been planted with fruit trees such as longan, mango, and guava. Among these plants, a hydroponic hut is built here, there are several hydroponic modules with various systems, there is also one NFT hydroponic module unit for vegetable plant nurseries. You can see in the distance the office of the Agricultural Training Center with green trees, rubber, and oil palms. On the left side of the OPAL Park there is a meeting hall and a prayer room on the left side, while the front is several offices and a Sungai Tiga IP2TP laboratory. Between the laboratory and the hall, there is a vacant lot that has been planted with fruit trees such as longan, mango, and guava. Among these plants, a hydroponic hut is built here. There are several hydroponic modules with various systems and there is also one NFT hydroponic module unit for the nursery of vegetable plants. You can see in the distance the office of the Agricultural Training Center with green trees, rubber, and oil palms. On the left side of the OPAL Park there is a meeting hall and on the left is a prayer room, while the front is some offices and a Sungai Tiga IP2TP laboratory. Between the laboratory and the hall, there is a vacant lot that has been planted with fruit trees such as longan, mango, and guava. Among these plants, a hydroponic hut is built here, there are several hydroponic modules with various systems, there is also one NFT hydroponic module unit for vegetable plant nurseries. Between the laboratory and the hall, there is a vacant lot that has been planted with fruit trees such as longan, mango, and guava. Among these plants, a hydroponic hut is built here, there are several hydroponic modules with various systems, there is also one NFT hydroponic module unit for vegetable plant nurseries.

Agro Innovation Park has an Agro Innovation Mark room located in front of the hydroponic hut. This room serves as a place of service for visitors, whether they come to discuss, consult, or buy products from Agro Innovation Park. The Agro Innovation Mark room is equipped with 3 round tables, several choirs, one administration room, and a large screen television available to play videos and information related to Agro Innovation Park and other agricultural information. Also equipped with a library and various displays available in several cabinets.

3. Cultivation Technology Innovation

Agro Innovation Park presents various types of innovative technology and adaptive methods such as the cultivation of perennial crops, medicinal plants, plants on beds, intercropping, conservation plants, plants in verticulture, and vegetable cultivation in several hydroponic modules. Following the objectives of the Agro Innovation Park, it is to display various types of technologies that have been produced by the Agricultural Research and Development Agency which are tailored to specific locations, so that visitors as technology users can see, discuss and even practice directly which technology will be implemented.

3.1. Annual Plants
There are 12 annual trees planted in Agro Innovation Park of AIAT Jambi (Table 1). Planting this plant is adjusted to the shape of the land because the conditions of the garden land are uneven, the annual planting is planted according to the contour direction and tiered plots are made. Planting is arranged according to the type of plant so that there is still empty land for cultivating other crops. Like dragon fruit plants planted in groups with a spacing of 3 x 3 m. Around the plant, mounds are made with roof tiles from the roof of an office building, these mounds that are limited to square-shaped tiles also function as soil retainers and fertilizers when it rains and facilitate plant maintenance such as fertilization and weeding. Among the dragon fruit plants are grown lemons.

The durian and duku plants planted are superior varieties, namely the local superior varieties of durian Selat and duku Kumpeh. Both of these varieties come from Jambi Province. Planting and spacing are adjusted to the direction of the contour, in the planting hole, mounds are also made and bounded with used tiles that are arranged as neatly as possible. Mango, longan, guava, kedondong, and star fruit plants are planted in the office yard in the OPAL area where the soil conditions are flat. While the vines are planted on either side of the road leading to the nursery house. The vines were propagated on metal poles that were made to shade the road so that visitors walked under the vine's vines or aisles. New grapes were planted in March 2020, previously planted alternately vines such as golden mama squash, bitter melon, luffa, and winged beans.

Table 1. Annual crops in the Agro Innovation Park IP2TP Sungai Tiga BPTP Jambi 2020

| No. | Plant name (local / latin) | Amount (stem) | Information         |
|-----|----------------------------|---------------|---------------------|
| 1.  | Durian (Durio zibethinus)  | 8             | Already producing   |
| 2.  | Duku (Lansium domesticum)  | 7             | Already producing   |
| 3.  | Mango (Mangifera indica)   | 2             | Already producing   |
| 4.  | Kaffir lime (Citrus hystrix)| 1             | Already producing   |
| 5.  | Lemon (Citrus limon)       | 10            | Already producing   |
| 6.  | Dragon fruit (Hylocereus undatus) | 15 | Already producing   |
| 7.  | Litchi (Dimocarpus longan) | 6             | Already producing   |
| 8.  | Kedondong (Spondias dulcis) | 2             | Already producing   |
| 9.  | Water guava (Syzygium aqueum) | 2   | Already producing   |
| 10. | Starfruit (Averrhoa carambola) | 2   | Already producing   |
| 11. | Fruit tin (Ficus carica)   | 8             | Not yet produced    |
| 12. | Grapes (Vitis)             | 8             | Not yet produced    |

### 3.2. Medicinal Plants

Taman Agro Innovation is a level IV of the Sustainable Food House Area, where 28 types of medicinal plants are planted (Table 2) [2]. The planting of medicinal plants is adjusted to the nature and type of the plant. There are medicinal plants planted as living fences, for example, kajibeling. Some are planted directly in beds, polybags, or used materials such as cans and burlap sacks, verticulture, some grow wild among cultivated plants and are also planted in gardens around the meeting place and playing arena [10].
Table 2. TOGA Plants in Agro Innovation Park IP2TP Sungai Tiga BPTP Jambi 2020

| No. | Plant name (local / latin)         | No. | Plant name (local / latin)         |
|-----|-----------------------------------|-----|-----------------------------------|
| 1.  | Mint (Mentha x piperita)          | 15. | Lemongrass (Cymbopogon nardus)    |
| 2.  | Gotu Kola (Centella asiatica)     | 16. | Lemongrass (Cymbopogon serratus)  |
| 3.  | Red betel (Piper ornatum)         | 17. | Kencur (Kaempferia galangal)      |
| 4.  | Green betel (Piper betle, L.)     | 18. | Aloe vera (Aloe vera)             |
| 5.  | Kecibeling (Strobilanthes crispa) | 19. | Meniran (Phyllanthus urinaria)    |
| 6.  | Dayak onion (Eleutherina bulbosa) | 20. | Ceplukan (Physalis angulata)      |
| 7.  | Jintan (Plectranthus amboinicus L.) | 21. | Celery (Apium graveolens)         |
| 8.  | Remek daging (Hemigraphis colorata) | 22. | Binahong (Anredera cordifolia)    |
| 9.  | Dragon tail (Rhaphidophora pinnata schott) | 23. | Chinese betel (Peperomia pellucida) |
| 10. | White turmeric (Curcuma zedoaria) | 24. | Sambiloto (Andrographis paniculata) |
| 11. | Yellow turmeric (Curcuma longa)   | 25. | Babadotan (Ageratum conyzoides)   |
| 12. | Galangal / laos (Alpina Galanga)  | 26. | Temulawak (Curcuma xanthorrhiza)  |
| 13. | Sensitive plant (Mimoa pudica L.) | 27. | Chinese petai (Laucaena glauca)    |
| 14. | Tembelekan (Lantana camara)       | 28. | Kelor leaves (Moringa oleifera)   |

During the Covid-19 pandemic, medicinal plants are needed, especially for consumption as spices, drinks, and herbal medicine to maintain and increase the human body's immune system. Seeds and medicinal plants in Agro Innovation Park were distributed to visitors and the Women Farmers Group (KWT), as mother plants in the KWT Nursery to support the activities of the Sustainable Food House Area [11]. There is a tendency for Indonesian people to turn to nature or “Back to Nature” which is one of the trends in our current life habits, especially to maintain a healthy body to stay healthy. The use of traditional medicine is generally considered safer than the use of modern medicine. This is because traditional medicine has relatively fewer side effects than modern medicine [12].

3.3. Cultivation of Plants in Beds

Agro Innovation Park does not only function as a place for technology transfer to users, but also as a place for visiting recreation, and education. This park is arranged as beautiful and comfortable as possible with various technological innovations, especially land use innovation and planting media. Utilization of land as a place for planting various types of plants with various effective and adaptive technological innovations, such as medicinal plants and vegetables grown on beds where there are boundaries between these beds with old coconut coir and using used tile. So far, coconut coir in the garden location has not been maximally utilized. This coconut husk not only functions as water retention and fertilizer when it rains but is also able to hold water and supply water to plants during the dry season. Making beds are made of various shapes such as oval, square, round, terraced, and love. This coconut coir is given colorful paints so that it adds to the beauty of the garden with green vegetable plants in milled or raised beds.

Vegetables in raised beds are planted in monocultures, such as leaf-producing vegetables (kale, spinach, celery, pakcoi, mustard greens, leeks, lettuce, etc.) and fruit-producing vegetables (tomatoes, curly chilies, cayenne pepper, etc.) eggplant, long beans, luffa, bitter melon, and cucumber). Some vegetables are planted intercropping two or more types of plants combined in one bed with the arrangement either from the height of the plant or from the shape and color of the plant, so it is beautiful to look at and does not leave Inter cropping rules are mutually beneficial for plants from land use, fertilizer use, and sunlight.

Some plants in the beds use black silver plastic mulch and some don't use plastic mulch. Cultivation of plants uses organic fertilizers or compost made from goat manure and cow dung. Some of this
livestock manure comes from IP2TP Jambi and some others were imported from outside IP2TP. Cultivation of vegetable crops does not use chemical pesticides, both conventional and hydroponic plants. Controlling pests and diseases using refugia plants of various types and the use of yellow tie traps and petrogenol installed in several places can reduce pest populations as a source of plant disease [13]. Refugia plants are planted in several places according to the topography and the main plant conditions. Refugia plants not only function as a control or reduce the population of pest attacks on vegetable crops but also function as a beauty in the garden because refugia plants are not only lush leaves but also give off aromas and flowers of various colors, thus adding to the beautiful scenery in Agro Innovation Park.

3.4. Animal Feed Cultivation

Forage grass is also planted in Agro Innovation Park. It has dual functions, namely as animal feed and soil conservation. Setaria grass is planted on terraces made according to the contour, by planting forage grass, soil, and fertilizers that do not experience erosion or erosion and are not washed away by rainwater so that the plants on these terraces continue to grow well. Setaria grass is a plant that has good quality for green feed, this can be seen from the growth rate, the productivity of the harvest, and the nutrients it contains.

Not only as animal feed and soil conservation, but Setaria grass also provides a different nuance, especially when the vegetables in the beds have been harvested or waiting for the next vegetable crop to be planted. Then, you can see that Setaria grass grows in lush and green rows on the sides of the beds

3.5. Cultivation of verticulture

Verticultural cultivation technology innovation is one option, especially on narrow land or yards or on land that does not allow raised beds such as hard rock / rocky land, large tree-cut land that cannot be lifted by the tree stump, or tidal fields, which are often submerged by water. Thus, land like this vertical technology is the right choice. The material for making vertical shelves can be made from bamboo, wood, planks, iron, or mild steel. The length and height of the verticulture racks are adjusted to the conditions in which the verticulture racks are placed. On the shelves can be placed planting media made of polybags, pots, used paint cans, mineral water bottles, vegetable oil used plastic bottles, buckets, or other materials available around us. The planting medium consists of humus soil, manure or manure or organic fertilizers, and rotten husks or burnt husks. The ratio of this planting medium depends on the fertility level of the soil used, if the soil contains a lot of organic matter then the use of manure or compost is less and vice versa if the soil lacks organic matter such as red and yellow podzolic soil, the addition of manure or organic fertilizer is more and husks are added [14].

Several types of plants can be grown using verticulture such as leaf-producing vegetables (spinach, mustard greens, lettuce, celery, pakcoi, and kailan, etc.), fruit-producing vegetables (tomatoes, eggplant, chilies, bird's eye chilies, and peppers, etc.) others), and medicinal plants (aloe vera, turmeric, red ginger, mint leaves, Gotu kola, and others). Other benefits of verticulture technology are easier plant maintenance, healthier, fresher, and cleaner plants because they are not exposed to rainwater splashing soil, and the use of fertilizers and water is more efficient. Several models of verticulture shelves with several types of plants are displayed in the Agro Innovation Park, placed in several places according to land conditions so that visitors can see them directly and can implement them in their residence.

3.6. Hydroponic Cultivation

The definition of hydroponics means hydro = water, and phonic = work. So, it generally means an agricultural cultivation system without using soil but using water containing nutrient solutions [15]. The history of hydroponics began in the early 1930s in Berkeley California, where William Frederick Gericke pioneered the hydroponic system, which is a cultivation system using water containing nutrients and minerals without soil. In principle, plants can live in the soil because of the availability of nutrients and if these nutrients can be provided in water with treatment, plants can also live and give the same results. Nutritional factors are one of the most important determinants of crop yield and quality [15].
In Agro Innovation Park, there are 5 hydroponic modules made of pipes from various shapes and sizes, placed in several places that are adjusted to the conditions of the land, so that it spoils the eyes of every visitor because in this park on each side there is something interesting, not only hydroponic modules with various the types of plants but also the placement of vertical shelves and the arrangement of the garden as a whole that makes the impression that visitors are in the garden, not in the field or garden. In addition to hydroponics using pipes, there are also several hydroponic media made of used materials such as Styrofoam boxes used for grapes, used vegetable oil derivatives, used mineral water bottles, used bottles, and buckets of various colors and sizes. Placement of hydroponic media using used materials is placed on two or three levels of verticulture racks with the length and height adjusted to the conditions of the place.

In the OPAL park, there are 3 hydroponic modules with various systems and sizes made of pipes and gutters. Furthermore, there is a hydroponic module in the NFT system using a paralon pipe with a length of 8 m (two parallel pipes connected) and a width of 1.2 m, there are 20 pipes. One unit of floating raft hydroponics module, one verticulture hydroponic unit with a length of 4 m consisting of two levels, here is placed a Styrofoam box using the hydroponic wick system. There is also a hydroponic unit drip irrigation system for planting fruit-producing vegetables such as tomatoes, chilies, and eggplants. On the other hand, there is one nursery unit made of gutters using the NFT system and two hydroponic verticulture units made of 4-inch pipe with 1.2 m high. Besides using water, it also uses husk substrate, burnt, broken tile, and cocopeat.

3.7. Visitors to the Agro Innovation Park

Learning outside of school is one of the curricula in several schools, both at the level of early childhood, kindergarten, elementary, junior high, and high school and equivalent. Visitors of various ages and levels of education, of course, need different objects and ways of conveying. Starting from the welcoming procedure, delivering the material and the assistance given, of course, it varies for each level. For early childhood and kindergarten levels, materials are given on the introduction of types of plants, such as leaf-producing vegetables and fruit-producing vegetables. Quizzes are often held on the introduction of plants and types of vegetables and fruit. Then they were invited to plant and harvest vegetable crops and play in the playground that had been provided. In the implementation of their activities, they are always accompanied by the Taman Agro Innovation TEAM and assistant teachers.

Elementary school visitors, besides being introduced to several types of vegetable plants, were also introduced to annual plants and medicinal plants in the garden. Likewise, visitors from junior and senior high schools are given information according to their curriculum at school, the difference is that only in Agro Innovation Park they can see and practice directly. The general level consisting of ASN, PKK (house-wife groups), KWT (women farmer groups), agricultural extension workers, Dharmawanita (house-wife groups), farmer groups, and the Taklim Learning Council (Muslim group learners). Besides conveying the objectives and benefits of the development of the Agro Innovation Park, also disseminated some of the technologies presented. It is hoped that with the visit and learning at the Agro Park, the transfer of technology to users can be carried out more quickly.
Until July 2020

Consists of Agricultural extension workers, Dharmawanita (house-wife group), farmer groups, public officers, PKK (house-wife group), women farmer group and Majelis Taklim (Muslim group learners)

**Figure 1.** Number of Visitors to Agro Innovation Park for 2018, 2019 and 2020

The largest number of visitors to Agro Innovation Park during 2018, 2019 was in 2019, namely 1,391 people consisting of 696 PAUD and TK, 116 elementary school students, 25 junior high school students, 286 senior high school students, and 268 general students (Figure 1). There was an increase of 654 people or 47.02% when compared to the number of visits in 2018. Meanwhile, the number of visitors until July 2020 had decreased by only 821 people when compared to the number of visits in 2019, but this number was higher than the number of visits in 2018. The decline in the number of visitors in 2020 was caused by the Covid-19 pandemic that hit Indonesia and even the world, also impacted activities at Agro Innovation Park which had to be closed from mid-March 2020 and reopened in compliance with health protocols and restrictions on the number of visitors starting July 15, 2020.

**Table 3.** Development of Internship for Students in the Agro Innovation Park, until March 2020

| No. | The origin of the school          | 2018 | 2019 | 2020 *) |
|-----|-----------------------------------|------|------|---------|
| 1.  | SMK Negeri 5 Muaro Jambi          | 6    | -    | 6       |
| 2.  | SMK Negeri 3 Tungkal Ulu          | 7    | -    | -       |
| 3.  | SMK Negeri 9 Tebo Jambi           | -    | 16   | 16      |
| 4.  | SMK Negeri 2 Muaro Jambi          | -    | 10   | 6       |
| 5.  | SMK Negeri 8 Muaro Jambi          | -    | 22   | 5       |
| 6.  | SMK Negeri 1 Pengabuan Jambi      | -    | 8    | -       |
| 7.  | SMK Negeri 1 Kempas Riau          | -    | 13   | -       |
| 8.  | SMK Negeri 1 Pasir Penyu Riau     | -    | -    | 6       |
| **Total** |                                | **13** | **69** | **39** |

a Until March 2020

In addition to receiving visits and education, Agro Innovation Park also accepts Internships for apprentices. In 2018, 13 students were from two Vocational High Schools and in 2019 there were 69
apprentices students from five schools. There was an increase of 56 people or 81.16% and from 2020 to March 2020 there were 39 student interns from five schools. In 2020 there was a decrease compared to 2019 but there was still an increase from 2018 and even then only until March 2020. These apprentice students did not only come from Jambi Province but also came from Riau Province (Table 2).

The existence of Agro Innovation Park provides benefits to schools in Jambi and neighboring provinces because internships are included in the school curriculum, the location of the Agro Innovation Park is very strategic, which is close to the Jambi-Palembang road, and it has a wide range and various technological innovations, so the choice of apprenticeship students to Agro Innovation Park is very appropriate. The Covid-19 pandemic outbreak that has hit Indonesia since March 2020, has changed all life arrangements including dismissing schools and offices. This also has an impact on students who are currently interning at the Agro Innovation Park, they are immediately sent home and students who have completed and already have an internship schedule are canceled until an undetermined time. Agro Innovation Park is temporarily closed for an internship.

3.8. Visitor Perception

The perception of visitors for three years (2018, 2019, and until July 2020), which was taken randomly at each visit, means that not all visitors were given a questionnaire to fill out, but were selected according to the criteria. Such as accompanying teachers, Agricultural Extension, Dharmawanita, PKK, and Majelis Taklim (Table 3). After being tabulated, information is obtained that 80% of visitors are very satisfied and 20% are satisfied with the service. Furthermore, 55% of visitors stated that they were very satisfied, 40% said they were satisfied and 5% said they were not satisfied with the Tagrinov. This means that Tagrinov services and innovations must be further improved to achieve 100% visitor satisfaction levels.

The perceptions of visitors regarding the management of Agro Innovation Park indicate that 88% of the visitors are very interested and the remaining 12% are interested. The perception of visitors to the cultivation implemented in the Agro Innovation Park, the highest figure was obtained in hydroponic cultivation, namely, 85% of visitors expressed very interest and 15% expressed interest. Furthermore, the technology of using used-materials 70% of visitors stated that they were very interested and 30% said they were interested. The high perception of visitors to hydroponic cultivation and the use of used materials is also more dominant as a medium for hydroponic cultivation technology because hydroponic technology is available from simple ones by utilizing used materials that are relatively easy, cheap, and can be cultivated in a limited space.

Table 4. Visitor Perceptions of the Innovation in Technology and Services at Agro Innovation Park

| No. | Technological innovation                  | Not satisfied (%) | Satisfied (%) | Very satisfied (%) | Interested (%) | Very interested (%) |
|-----|------------------------------------------|------------------|--------------|-------------------|---------------|---------------------|
| 1.  | Governance of Innovation Agro Park        | -                | -            | -                 | 12            | 88                  |
| 2.  | Cultivation of annual crops              | -                | -            | -                 | 45            | 55                  |
| 3.  | Crop intercropping                       | -                | -            | -                 | 45            | 55                  |
| 4.  | Cultivation of verticulture              | -                | -            | -                 | 40            | 60                  |
| 5.  | Nursery cultivation                       | -                | -            | -                 | 40            | 60                  |
| 6.  | Hydroponic cultivation                    | -                | -            | -                 | 15            | 85                  |
| 7.  | Cultivating the use of used materials     | -                | -            | -                 | 30            | 70                  |
| 8.  | Agrimart innovations                      | 5                | 40           | 55                | -             | -                   |
| 9.  | Service                                  | -                | 20           | 80                | -             | -                   |

4. Conclusion

Agro Innovation Park is located in the office area of IP2TP Sungai Tiga BPTP Jambi and is integrated with Obor Pangan Lestari, thus providing convenience and many technological choices to visitors. The
number of visitors in 2019 increased by 654 people or 47.02% compared to the number of visits in 2018. Meanwhile, the number of visitors until July 2020 decreased to only 821 people compared to the number of visits in 2019, but this number is higher than the number of visitors in 2018. The perception of visitors, 80% of the service stated that they were very satisfied, 88% of visitors were very interested in the management of the Agro Innovation Park, 85% of visitors were very interested in hydroponic cultivation technology and 70% of visitors were very interested in the cultivation technology using used materials. The Covid-19 pandemic outbreak since March 2020 has affected the community life, schools have been closed, working at home and activities at Agro Innovation Park, especially visits and student internships have also been stopped.

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