



Integrated Laboratory Corps Sheep Village As a Field Agency for Agricultural Research and Development



INDONESIAN AGENCY FOR AGRICULTURAL RESEARCH AND DEVELOPMENT
BANTEN ASSESSMENT INSTITUTE FOR AGRICULTURAL TECHNOLOGY
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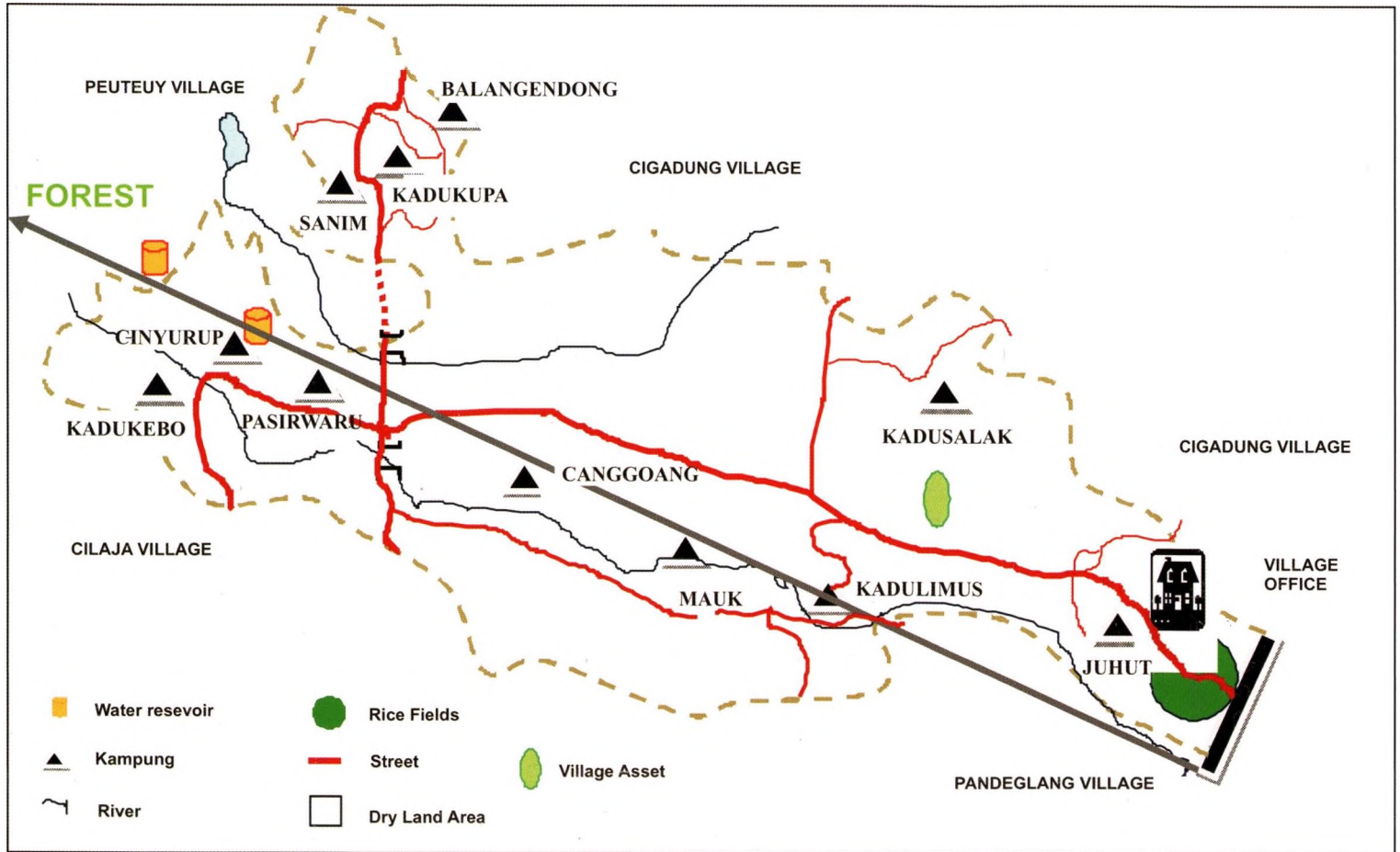
INTRODUCTION

Kampung Cinyurup, Juhut Village, Tanjung Karang district was formerly an ordinary village. Since, the people have a good persistence as it has been developed by the local government, the village turned into a center of sheep livestock. Change does not happen instantly, it takes and processes pioneered by certain parties who have the same goal to build up a center for sheep livestock in Banten province, empowering the people by providing them enterprises for farming, improving people's welfare and save the protected forest.

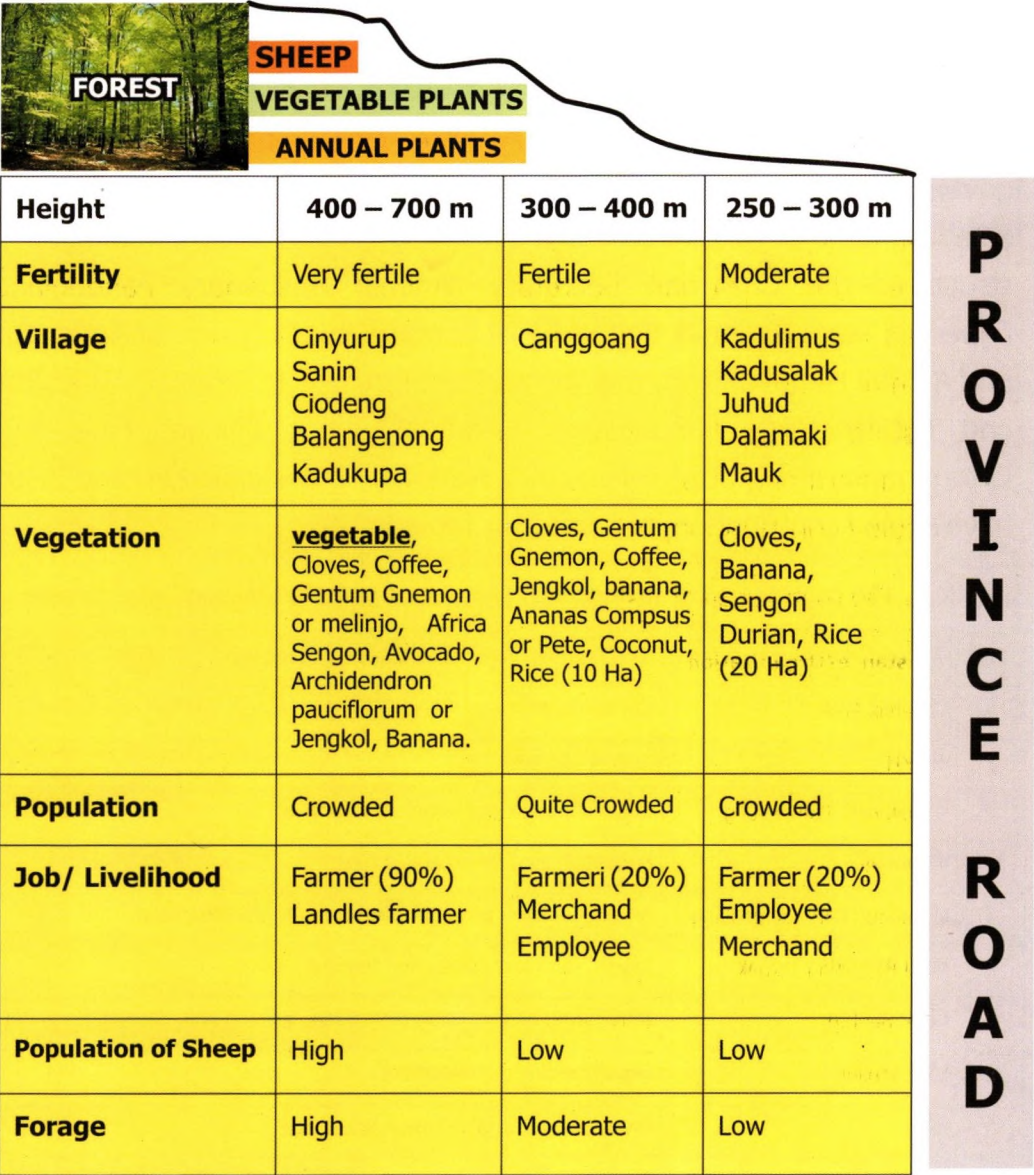
The history of sheep livestock development is integrated with the coordination of several instances as Institute of Livestock Research (Balitnak), Banten Assessment Institute for Agricultural Technology (BPTP), and the Dinas of Agricultural and Animal Health in Pandeglang district, directly surveyed to decide the location using the techniques of Participatory Rural Appraisal (PRA). The results we:

1. The total area of the Juhut is 402.86 ha and it is divided into 6 RWs/28 RTs and 1,383 households with a population of 6191 people (3721 men and 2470 women). The map of administrative region of Juhut is shown in Figure 1. Utilization of the area consisted of wetland (60 ha), farm / mixed garden (264.4 ha), residential and yards (75 ha) and others (3.46 ha). This area has elevation 200-700 m asl, rainfall 2,000 mm / year, air temperature 25-35 °C with slope topograph. The people's education is still low and most of its livelihood belongs to agriculture (37.22%). Agricultural commodities as a source of revenue was the mainstay of plantation crops (cloves, coffee, avocado, coconut, gnetum gnemon or melinjo) and farm vegetables (carrot, scallion, solanum nigrum or Leunca, squash, tomatoes, pepper, mustard / caisin, green beans, kangkung, spinach). Juhut also grew wild plants that local people call it by Talas Beneng (Besar dan Koneng or such kind of Taro which Big and Yellow). People utilized the Juhut taro, which weighed up to 30 kg / tree. People use this as food with boiled / steamed as a snack.

Picture 1. Juhut Map



2. Cinyurup is supported by excellent natural resources to develop the sheep livestock, especially in an providing the animal feed. There are at least 30 types of forage (grass and foliage types) and a wide forage area on forest land. Biophysical transect related to the development of sheep is shown in Picture 2.



Sumber : Balai Penelitian Ternak, 2009

Picture 2. Juhut Transect

THE ESTABLISHMENT OF INTEGRATED CROP - SHEEP VILLAGE

The establishment of sheep commodities was based on the support and participation from Provincial office and the district of Pandeglang in Cinyurup Village, Juhut. Meanwhile, BPTP Banten through PRIMATANI at that time also moved some sheep to this village due to lack of care at the former location.

The enthusiasm of the community or the people of Juhut and the local government officials were so great. It appeared from the beginning of establishment of Kelompok Kerja (Working Group) with a management structure: the Chairman Secretary (Animal Husbandry Pandeglang), Experties Team (Balitnak Bogor; BPTP Banten), coach (Dinas of Agricultural and Animal Hundbandry), members (Perhutani office; Dinas of Agricultural and Estate corp) Pandeglang; Head of Juhut Village; Field Agric Extention; Farmer group). Since 2009, National / Provincial SKPD and District have a role / contribution, presented in Table 1.

Table 1. The contribution of Instances in Livestock Integrated Village Development

No	Instance/Organization	Role/Contribution
1	Distanak Prop	Animal donation
2	BP3KH	Animal donation
3	Disnak Kab. Pandeglang	Cattle donation and technical assistance
4	Perhutani	cultivation land for greenleaf feed
5	Distanbun Kab. Pandeglang	Animal donation and cultivation land for greenleaf feed
6	Balai Penelitian Ternak	Expert, farm technology and training
7	BPTP Banten	Introducing and assisting technology, training and, development, HMT
8	LSM Kopling	Organizational reinforcement
9	PPL	Organizational and Technical assistance
10	Farmer	Providing expert and some necessity to make cage

In 2010, BI of Serang conducted a research which the result showed that the livestock of sheep could be developed viewed by the potential market and technical production. BAPPEDA Banten Province and Pandeglang also committed to develop this cluster, which would be involved by SKPD includes SKPD who handled the roads, land, water, and so forth. In 2011, BPTP Banten made this area as Rural Agricultural Development Model through Innovation (M-P3MI) by designing a roadmap to figure out technological innovation that still being needed. Besides that, they also do synergism with all offices, universities to realize it. In 2011, BI of Serang would allocate funds for capacity building in form of training and would facilitate credit for the development of this cluster.

THE EFFECTS OF DEVELOPING INTEGRATED CORP - SHEEP VILLAGE

Developing sheep livestock village has shown excellent results for people with a positive impact, whether impacted on the environment, knowledge, behavior as well as and on skills of farmers to increase sheep population. It has been described that the habit of people farming in forest by opening new arable land has contributed to deforestation. As the sheep livestock developed in that area, the activities of people who originally damaged the forest gradually became farming in forest. Besides, the program of forage reforestation e.g. planting grass and other leguminous plant with direct conservation concepts helped to rehabilitate protected forests. Based on field observations, about 70% protected forest that used for sheep livestock has been succeeding in reforestation.

The effect of livestock on farmers obviously improved knowledge and skills in technical terms. Indeed, as significant evidence, that place has been used for comparative studies by several groups of livestock in Banten Province. Training through Gapoktan "Juhut Mandiri" intensively has also changed the farmers behavior to become more independent. Their independences were reflected on the activities managed by the people in the form of social activities and good spirit of mutual cooperation among the member. Until now Gapoktan has had some community assets place (gazebo) for meeting, sub-group, and land which made by self-help groups of farmer as Karya Mandiri, Taruna Mandiri, Jaya Mandiri, Bina Mandiri, Cinyurup Mandiri and Harapan Mandiri. Organizational reinforcement has been scheduled and set regular activities that have been conducted every week (Thursday), accompanied by field Extension(PPL) and officers from other instances (dinas). In the meeting, the member discussed the issues, technical cultivation, development plans, and farm marketing.

Sheep population before this activity was 275, then it was added from instance (Table 2) so that the total in 2009 was : 479. Up to December 2010, it was recorded that there was development of sheep population became 1291 with different types of sheep as Garut composite, Sumatran composite, St. Croix, Barbados cros and local Garut. Development of sheep livestock was carried by the revolving system, which the farmers was responsible to look after one sheep for 3 years, and he must return two sheep of the same age when the farmers got the sheep.

The pattern of livestock development that will be used is the pattern of 8:1. It means that every farmers looks after 8 breeding females and 1 male. With that pattern, it is expected by the second year of maintenance farmers can sell one sheep so that the livestock sector could help in improving people's welfare. By the cooperation program of developing livestock, the people aim that in 2013 Cinyurup would be an independent and prosperous district, called Masyarakat Mandiri Sejahtera (MMS).

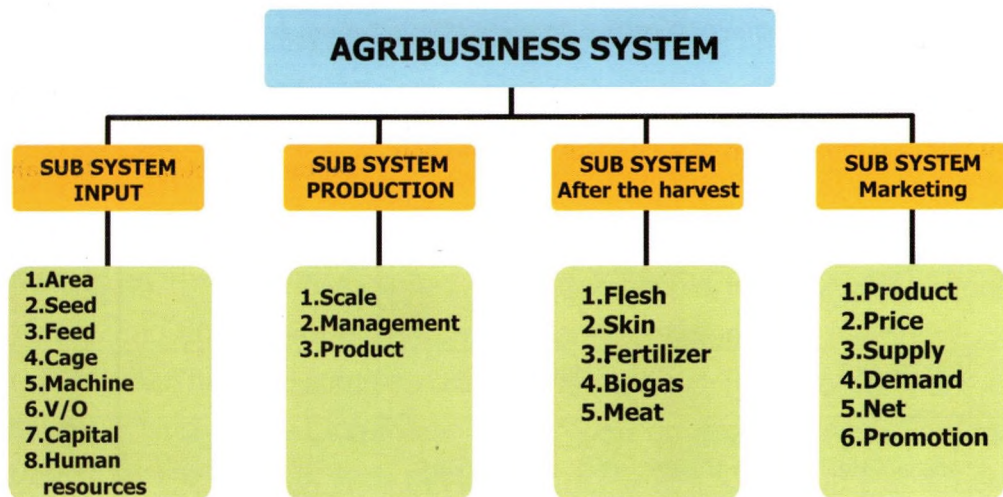
Table 2. The composition of livestock donation from government

No	The Source of Livestock Donation	Month and year of Transmission	Initial Population/The Number of Donation		
			Jantan	Betina	Jumlah
1	DAK 2008/Distanak	June 2008	2	32	34
2	BP3KH Prov. Banten	May 2009	1	15	16
3	BALITNAK I	May 2009	5	10	15
4	Dinas of Agricultural and Animal's Health/APBD II 2009	June 2009	1	20	21
5	BALITNAK II (Research)	August 2009	-	24	24
6	Dinas of Agriculture and Livestock Prov. Banten (APBD I)	September 2009	1	30	32
7	DAK 2009/Dinas of Agriculture and Plantation	November 2009	1	25	26
8	CSR Bank Indonesia Serang	January 2010	-	36	36
Jumlah			12	192	204

THE DEVELOPMENT OF SHEEP LIVESTOCK AND TALAS BENENG

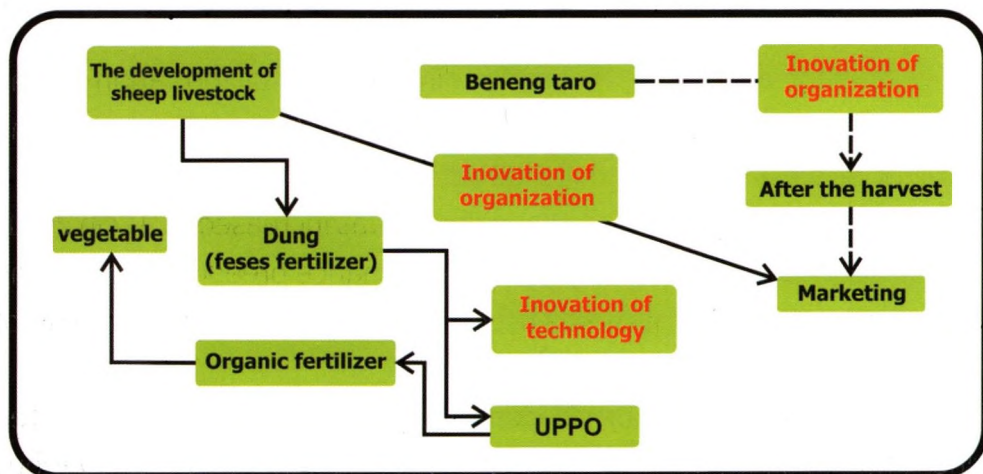
The development of sheep livestock is directed to the formation of the overall agribusiness system from upstream to downstream (Picture 3). The indicator of success refers farmers targets of 9 sheep (8 females and 1 male). Firstly the farmers had 1-4 sheep then it was increased to 4-7 in 2011. It is expected that in the second year of maintenance breeders can sell one sheep every month so that it can be used as a profit income (> 50% UMR of Pandeglang).

Besides sheep, since 2009, BPTP Banten cooperated with BKPD Banten Province and the Center for Post-Harvest processed beneng taro into various products such as bubernis, chips, klapertar, etc.. These products have



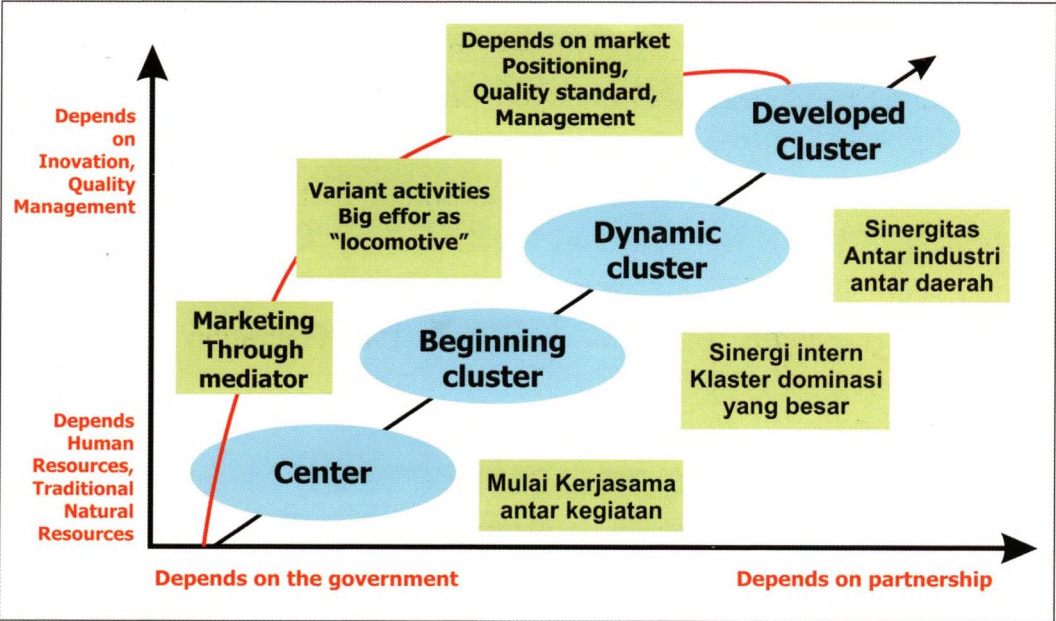
Picture 3. Agribusiness systems model development sheep.

become the business group PKK and women breeders and it was being introduced in some important events in the Local Government Provincial / District. This activity has also been aired on Trans TV 3 times. BKPD also provided donated equipment to process beneng taro and made the Juhut becomes Mandiri Pangan. Starting in 2011, BPTP Banten also has developed the region as an area of sheep and cattle based local food through technological innovation and institutional innovation (Picture 4).



Picture 4. The Area of M-P3MI Based on Sheep Livestock and Local Food (Juhut, Karang Tanjung. Pandeglang District)

Meanwhile, Bank Indonesia, through capacity building activities such as technical training and apprenticeship, would develop the region as a cluster-based business Sheep Livestock in agribusiness (Picture 5).



Gambar 5. Develop the region as a cluster

ESTABLISHING FIELD LABORATORY OF AGRICULTURAL RESEARCH & DEVELOPMENT

On May 23, 2011, The Director General of AARD (Dr. Ir. H. Haryono, MSc) visited Integrated sheep Livestock village and he was being greeted by the Mayor of Pandeglang (Drs. H. Erwan Kurtubi, MM). at that time, he stated that the Integrated Sheep Livestock Village was officially established as the AARD Field Laboratory. It was based on several considerations that include aspects of coordinating several instances that were realizing the synergy program, the process of organizational enforcement through mentoring, farmers empowering with the principles of behavior changing, dissemination and application of agricultural innovations in the form of technological and institutional.

1. The Synergy of Institutional Unit

The development of the integrated livestock is the result of the synergy of the several institutional sectors, not only agricultural / livestock sub sector but also other sub sectors that support the potential development Juhut. There were some instances contributed in developing such as: BAPPEDA Pandeglang District, Dinas of Agriculture and Livestock Prov. Banten, Dinas of Animal Husbandry and Animal Health District. Pandeglang, Livestock Research Center (Balitnak), Banten Assesment Institute for Agricultural Technology (BPTP), the Regional Food Security Agency (BKPD) Prov. Banten, Forestry and Plantation of Banten Province, Bank Indonesia (BI) - Serang, KPH Banten, Dinas of Agriculture and Plantation Pandeglang District, Agency for Extension of Agriculture, Fisheries and Forestry (BP4K) Pandeglang District, Forestry Pandeglang District, Food Security Office Pandeglang District, Head of Sub-District of Karang Tanjung, Kelurahan Juhut and Kopling Non-Governmental Organization.

2. Harmonization Relations of Research-Extension-Farmer

The development of the integrated sheep livestock as a result of the harmonization of researchers, extention workers, farmer and the people who are correlated among each other, and strengthen and commitment to each other. Submission of agricultural innovations from researchers to extension workers and breeders / the people through training, regular meetings and other activities are carried out in locations both formally and informally. Breeder/ the people as the main subject of activities are aimed at improving the management of social organizations based on the pattern of empowerment.

3. Integration Food Programme towards Self Sufficiency

Juhut had huge agricultural potential not only sheep but also Banten's unique taro and various kinds of vegetables. The development of all of the

potential this will have effect on the achievement of food self-sufficiency in the area/place. Since 2009, BPTP Banten has cooperated with BKPD Banten Province in raising and developing the kind of taro (taro Beneng) as unique local food of Banten. In the real practice, this involves the development of local food community empowerment through the Women Farmer Groups (KWT) and the PKK in Juhut. There have been many products that have been produced from beneng taro by KWT and PKK as chips, klapertart, bubernis, brownies, etc.. Knowing that it has great potential, the people have also started cultivating crops previously beneng taro grows wild in the area. BKPD Banten Province defined Juhut as one of the Desa Mandiri Pangan through empowering the people.

4. Integration of Technical, Social and Religious

This region has grown not only technical issues (crop-livestock integration) but also the social and religious life as shown by many activities of mutual cooperation in various aspects such as fixing the roads, houses, and organizing various events as well as the implementation of worship according to the religion. The strong value of socio-religious activities and the spirit of mutual cooperation seen from the ownership of assets such as meeting residence, organization camp and land group as those positive activities are the result of self-help groups of breeders. Art activities such as debus, as the unique of Banten that involves the young and the adults is also has been developed. Their performance can be seen e.g. when there was a time of visitation in Juhut. Implementation of the integration system between livestock-crops has applied since the beginning of establishing the integrated sheep livestock. The waste that comes from sheep feses has been used as fertilizer for vegetable crops and plantation crops in farmers' fields and the waste (residual) of crops has been used as a source to feed up the sheep. Since 2009 BPTP Banten has provided training composing organic fertilizer from waste of sheep using some starter/ decomposers like Probion and Orgadek.

CLOSING

The Development of Sheep Livestock Village as a synergy results from the various parts or instances and programs as a manifestation of the commitment to improve the people's welfare of the agricultural, including farmers. Agricultural Research Instance as a producer of agricultural innovation will take a big and active role to support the development of the sheep livestock village through research/ assessment and dissemination of agricultural innovations.

The visit of Director General of AARD to the Village of Integrated crop - shep



Sheep



Green



Sheep



Taro Beneng



Comunal Cage

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