

資料 2. 先発調査分概要報告 (5/25 ~ 5/31)

1. サブサイト活動における日本側の役割

メインサイトで開発された技術を 4 カ所のサブサイトで実証するにあたり、日本側の負担はモデル農家への備品供給、ワクチン供給、日本人専門家の旅費、コックスバザールのサブサイトではひな代と 12 週令までの餌代を負担している。バングラデシュ側はその他のコストを負担している。

2. モデル農家へのインタビュー結果

(1) 養鶏事業についての印象

インタビューをしたほぼ全農家はプロジェクトにより導入されたスラットシステム（簀の子の床）がついた鶏舎は衛生面の観点から好ましく、このシステムにより集められた鶏糞は堆肥や魚やエビの養殖の餌として活用することも可能であり、マーケットや大規模農家に売ることが可能であるのでよいと回答した。また、養鶏を行うことにより、養鶏に関する知識や技術が向上し、養鶏を通じて自分自身への自信がついたとコメントする農家が多かった。一方、養鶏を始めて、鶏病の診断を行える施設がサブサイト地域にないことや、地元の獣医の知識や技術力が低いことを実感し始めたと回答した人も多かった。

(2) モデル農家へのインパクト

養鶏を始めたことにより、毎日家族や来客に卵を与えることが可能になったし、貯蓄も増えたとインタビューを行ったほぼ全ての農家が回答した。養鶏で得た利益の活用方法については、特に女性のモデル農家では養鶏で得た利益を子供の学費や服の購入費や食費に当てたり、次の養鶏の費用に充てるために貯金をしていると回答する人が多かったが、一方、男性のモデル農家は利益を産卵鶏ではなくブロイラーに移行するために投資したり、別の事業への投資に当てたと回答する者が目立った。

(3) サブサイトでの養鶏経営について

調整員やフィールドオフィサーによると、ボゴラ、バリサルなどの一般的なサブサイトでは一般的に 12 件のモデル農家のうち、7 名前後のモデル農家はうまくいく傾向にあるとコメントしている。ダイナシプールは全農家の経営がうまくいっているとのこと。コックスバザールではやる気のない農家からやる気のある農家を選定しなおしたこともあり、新しいモデル農家は経営が順調に行きそうである。フィールドオフィサーによると全サイトに共通していえることは、女性が鶏の世話を主にしている農家は世話が行き

届いているのでパフォーマンスがよいとコメントしている。

(4) モデル農家間のコスト感覚について

インタビューを行ったすべての農家は、必要なトレーニングがあれば周辺農家も養鶏を始められるとコメントした。また、インタビューをおこなったほぼ全ての農家は周辺の農家は養鶏を始めるに必要な貯えはあるとコメントしていた。比較的裕福な地理的条件のサブサイトで初期投資費用を自分でまかなえる農家をモデル農家としたため、ほとんどのモデル農家はプロジェクトの養鶏以外に収入源があり、養鶏に生活を頼っているモデル農家は数えるほどであった。特にバリサルやコックスバザールなど南の地域では家族や親戚が海外に出稼ぎに行き、そこで得た貯金がある家も多い。また親戚間でのつながりが強いので、資金が必要な場合は親戚間で工面できるケースが多いようだ。親戚間で工面できない場合は銀行に行くが、時間的余裕がない場合のみ NGO（銀行よりも利率が高い）から資金を借りるケースが多いようだ。

ひなと 22 週令までの餌代をプロジェクトから貸し出しているが、この分を返済していないのに利益がでたと認識し、ミシンなどを購入している農家がほとんどである。プロジェクト側もその分をコストとして換算していなく、利益が出たとコメントしており、費用対分析は十分にできてはいない。

コックスバザール以外のサブサイトでは返済プランも固まり返済が始まったとのこと。コックスバザールではまだ利益がでていないので、実施機関から返済プランを提示していないとのこと。どの地域でも一部の農民は利益がでていないように見せかけ返済を渋るものがあるようであった。

(5) プロジェクト終了後について

プロジェクト終了後 1 年間は実施期間のフィールドオフィサーが引き続き常駐し、技術的アドバイスを与えられる状態にあるが、ほぼ全農家はプロジェクトが終了しても引き続き養鶏をつづけていきたく、特に問題はないとグループインタビューの場でコメントしている。その一方、個人的にインタビューをしたところ、プロジェクト終了後は産卵鶏は利益が少ないので、プロイラーに移行したいとコメントする農家がバリサルでは目立った。

(6) 地方畜産事務所 (DLO) の担当官へのインタビューについて

DLO の担当官はデスクワークが中心で、プロジェクトのモデル農家の状況にあまり精通していないようであったが、更に下部の郡レベル (Upazilla レベル) の担当官になると、ワクチンの投与などを通してモデル農家の状況や他のプロジェクトの状況も把握し

ているようであった。

ほぼ全てのモデル農家は関心のある農家があれば養鶏をおしえてもよいともコメントしているが、地方畜産事務所の担当官によると農民がトレーナーになるにはさらなる研修が必要であるし効率が悪いので好ましいとはいえないが、周辺農家へのモチベーションをあげることは貢献できるとコメントしている。養鶏に対する農民のインセンティブを向上させるには成功している農家訪問をさせることが効果的ともコメントしていた。DLOとしては農民に対する養鶏の研修をとおして地域に貢献していきたいとコメントしていた。

(7) モデル農家を模倣して養鶏を始めた人へのインタビューについて

インタビューしたほぼ全てのモデル農家は近所の人に養鶏の方法を聞かれて教えたとコメントしており、各サブサイトで模倣して養鶏を始めた農家がでていますが、まだ始めて2、3ヶ月の農家が多く利益はまだでていないようだ。

意外であったのは、養鶏の規模が、模倣して始めた農家のほうがモデル農家より大きいところが少なくないことであり、模倣農家でも経営が比較的うまくいっているようであったことだ。これに対し日本人専門家は有効なワクチンが投与されるかどうか疑問であり、今後それらの農家の経営がうまくいくかは疑問だとコメントしていた。(DLOを通したワクチンは一般的に10本に1本しか有効ではないとのことだが、そうするとプロジェクト終了後に同じことモデル農家にも言えることになると思われる。)

(8) 養鶏プログラムを行っている現地 NGO との比較について

プロジェクトの養鶏ではひなから飼うため収入を得られるのに約5ヶ月かかるが、現地 NGO のとっている方式だと、ひなの段階に応じて鶏を売っていくため、約1ヶ月で収入を得ることが可能となる。しかしながら、現地 NGO では技術サポートが不十分なため、現地 NGO のプロジェクトに参加している農民の養鶏知識や技術レベルは低く、産卵率もあまり高くないため、養鶏から得られる収益もかなり少なくなるものと考えられる。

以上

Report on field study in Barisal and Bogra

1. Role of sub-site activity between both governments

In sub-site activities, Japanese side provides equipment for model farm, medication, and travel expense for Japanese experts to sub-sites. Bangladesh side provides the other costs including salary for field officers in sub-sites, rent for branches of BLRI in sub-sites, loan for feed and chicks to model farmers. In a case of Cox's Bazar, Japanese side bore costs for chicks and feed until 12 weeks growth of chicks.

Japanese experts most involved in Cox's Bazar and then Dinajpur, among four sub-sites. Japanese experts have not so much involved in sub-site activity in Bogra where mainly Bangladesh field officers have been managing.

2 Selection of model farmers

Selecting suitable model farmers will be the key for success on sub-site activity. Sub-site Working Committee conducted a questionnaire survey to 1,306 farms in four selected sub-sites. Only farms who meet criteria, interviews were implemented for selecting model farms. A criterion of selecting model farmers was minimum education but an illiterate woman in Dinajpur was doing very well.

3. Background in each sub-site.

Verification of research outcome on the main-site activities to suitable model site will effect on extension activities after completing the Project. Surrounding conditions on poultry farm in Barisal and Bogra are very different as follows.

(1) Barisal

The distinctive features are following: high humid weather due to low land area, rich water resource from rivers, a one-crop area. Most families have own ponds for daily life use and hatchery fish and prawn. Prawn is exported to Japan. Wood industry is famous there and major income source for the population is from woods and mangroves. Coconuts and guava are sold to other cities of Bangladesh. Eggs can sell higher price, while feeding cost is lower than the other sub-sites. Poultry production is high demand in Barisal. According to DLO officers and Director of General, BLRI, standard of life in Barisal is on average of Bangladesh. Some model farmers do not follow instruction by field staff. Broilers are getting more popular than layers in Barisal. Metal roof on poultry shed seems to be more popular than straw roof due to their good economical situation. In general, some model farmers make more profit than the farmers do in other sub-sites, but less eagerness to the layer farms. Some family members in model farmers go to other county for work and model farmers have side jobs, and they have enough saving than

expected. They said nature of people in southern part including Barisal and Cox'Bazar are more aggressive and interested in political activities. BNP and CIDA and DfD provide training program in biogas and fish culture in the district, but the beneficiary seems to be limited person like only the NGO staff so far. Director General of BLRI commented that the various situations in Barisal are lowest among four sub-sites.

(2) Bogra

According to DLO officers in Bogra, weather in Bogra is suitable for poultry farm. Humidity is not so high because of high land. It is cold in winter season. Electricity is provided throughout Bogra, and most model farmer use a fan in their layer shed in the time of high humid weather. There are around 2,000 poultry farms in Bogra. Within the 2,000, there are 500 commercial poultry farms in the range of 2,000 to 20,000 flocks. 60% of the farms is layer farm and the other 30% is broiler farm, 10% is cock farm. 60% of the egg production goes local consumption and the other 40% is for selling to other place. There are government hatchery is also located in Bogra. Chicks soled for NGOs are also come from Bogra. Transaction of chicks per week is 100,000tk. Major middlemen of poultry industry are located in Bogra.

Bogra is a capital of the northern belt of Bangladesh. They said all roads in Bangladesh link to Bogra, which means it is the center of trading in Bangladesh. Rural Development Academy that is an government research institutes for community development is located there. Three-crop production is available in Bogra because of high land. Composition of landless people, who own homestead but not enough land for cultivation, is less than 10%. Flooded land is very few in Bogra. Airport is now under construction just 2 km from model site. There are lots of large scale farmers holding banana farms, sugar cane farms, maize, and paddy field etc, and thus why dropping of layer can be sold easily. That is 80tk per 60-80kg.

The World Bank and Asian Development Bank funded for constructing Asian Highway, which link to Myanmar, Nepal, and India. Through the highway, various products are traded to those countries.

Besides PMTIP, there is no other donor and NGO project in Bogra except BRAC. The officers found that PMTIP project style is better than BRAC style because firstly the Project provide technical training for farmers.

(3) Dinajpur: Dry weather, cold weather in winter, like desert, less political minded people, in general the people are submissive, sincere, and well cooperated. Thus, model farms follow instruction from field officer very well.

(4) Cox Bazar: High humidity,

4. Result of interviews to model farmers

(1) Impression about PMTIP

Most model farmers feel that advantage of the PMTIP layer farm is the dropping system, which is easy to maintain, and it also provides high hygienic situation. Dropping can be used for manure and feed for fish cultivation. All interviewed model farmers commented that they feel easy to manage the layer farms. Most farmers are appreciated to equip the skills and knowledge for keeping layers, and they got self-confident to manage the business. After acquiring knowledge on poultry management, some farmers realized inconvenience that there are no access to facility for disease diagnosis in sub-sites, and they also notice that low technical knowledge of local veterinary surgeons. The Project provided a training for ULO officers in sub-sites in order to diagnosis NG in sub-site level, but a ULO officer who took the training claim on the lack of facility in the sub-site level.

(2) Impacts on model farmers from the Project

Most model farmers in Barisal and Bogra pointed out that the best point of the layer farm is to provide regular intake of eggs to their family, and to increase saving. In case of Barisal, fishes are comparatively expensive, therefore the model farmers are happy to take eggs in stead of fishes. The ways to use the saving were following: saving for necessary expense, school fee for children, buying more clothing, buying sawing machines, increasing the number of chicken, building another poultry shed, and saving for buying broilers.

In general, if women manage layer farms, profit goes to children's education, clothing, food for family, while men manage layer farms, profit goes to saving for another investment e.g. for buying broiler. Therefore, we could say that women are more suitable for managing layer farms than men. In a case that a student is a model farmer, the profit of the farm goes for his future education.

(3) Managing layer farm in sub-sites

The Japanese project coordinator and a scientific officer of PMTIP observed that about seven model farmer in every sub-sites are successful except Dinajpur where all model farmers are successful. The Japanese coordinator commented that all model farmers in Dinajpur are doing very well. Model farmers who do not follow instruction from field staff can not have high performance.

Field officers commented that successful model farms in every sub-sites are the model farms which is taking care by women.

(4) Sense of cost for running a layer farm among the model farmers

Most model farmers in Barisal and Bogra indicated that at least necessary training is provided neighbors can start the layer farm. If there is not enough saving for 100birds, a scientific officer suggests model farmers that such parson can start a layer farm from smaller number of birds. Almost all farmers interviewed commented that neighbors have enough saving for starting the layer farm. Almost all model farmers did not highly depend on layer farms for their living, since their family have other income source, for example salary of their relatives, pension of their relatives, saving income that their relatives worked overseas, running shops etc. One senior model farmer indicated that he has 40 family members and his family seems to have various income sources. Almost all model farmers did not take any loans from a financial institution for their initial investment, but from their saving. Only few model farmers commented that they borrowed money from their relatives for a part of initial investment. Cost for introducing chicks and feed was provided from BLRI initially at all sub-sites and almost all model farmers felt that they would not get into trouble after completing the Project, because they keep making profit. They said that if a person hold 500 to 1,000 birds' poultry farm, the family does not need another source of income.

Scientific officers in each sub-site decided repayment plan by direction of PD, and model farmers agreed to the plan in a meeting. Repayment plan in Barisal is following: 150Tk per week for 100 birds' farm, 200Tk per week for 150 birds' farm, 300Tk per week for 300 birds' farm. The plan in Bogra is following: 100Tk per week for 100 birds' farm, 125Tk per week for 175 birds' farm. Their payment will be directly returned to the bank account of BLRI. Model farmers in both sub-sites started repaying to BLRI. However, some farmers seems to hide actual performance and pretend lower rates than actual in order not to repay due to their poor achievement. Also, a project coordinator noticed that active participation from model farmers in a meeting of Barisal can be seen after the concrete plan for repayment was informed them.

A successful model farmer indicated that the point to maintain the performance in high level is to timely provide water and feed, and vaccination, to allocate shed in the best direction with good ventilation, to control disease and hygiene. The model farmer seems to acquire enough knowledge and skills for poultry management.

(5) Future plans of model farmers after completing the Project period

According to the group interview to model farmers, eight out of 12 model farmers in Barisal intended to continue their poultry farms. After suggested that BLRI would continuously provide technical support even after completing the Project, all model farmers agreed to continue their layer farm at the meeting.

Most of male farmers told that their future plans were managing broiler farms, while female farmers commented that their future plan is extend size of layer farm or continuing their layer farms. As most model farmers in Barisal seem to be comparatively wealthy, some model farmers have more interest to manage broiler farm than layer farm, since broilers can produce benefit in 42 days after introducing chicks, while layers can produce the benefit in 22 weeks.

(6) Networking among model farmers

As for a network among model farmers, model farmers in Barisal have a weekly regular meeting, a meeting with a scientific officer from BLRI every fortnight. In case of Bogra, farmers hold a meeting every fortnight with a scientific officer. ULO officers, who are veterinary surgeons, also meet the farmers if needed.

(7) Possibility to be a key farmers for extending the Project outcome

All model farmers commented that they are willing to extend their knowledge and skills acquired from the Project to their neighbors, if neighbors are interested in. Actually, some neighbors already visited them to know how to run layer farms and model farmers provided their knowledge and skills acquired by the Project to them. One woman model farmer commented that ten farmers started layer farms visited her to ask how to run business. Model farmers seem to take a role of motivating neighbors.

The Project distributed two types of manuals for all model farmers on disease control and feeding management. Ten neighbors of model farmers demanded scientific officer in Bogra to provide the manuals to them. Now, the Project has a plan to reprint the manual for 3,000 copies and to distribute the manuals for neighbors of model farmers within the Project period.

DLO officers in Bogra noticed that most model farmers located in very convenient place e.g. access to main road, while a NGO project selects farmers in remote area. In extension period, needed farmers in remote area should be also included.

5. Result of interviews to DLO officers (district level) and ULO officers (Thana or Upazilla level).

There are total 64 DLOs in 64 districts in Bangladesh. DLO officers are livestock inspectors in a district level, and they transmit information from DLS. DLO provides vaccination to local people and it also in charge of international coordination in district level. Deskwork seems to be their main work. ULO officers are veterinarians and they inject vaccine to livestock. ULO is also doing international coordination in Thana level. DLO officers told that they tried to establish monitoring system on their activity now.

(1) Comments from DLO officers and ULO officers in Barisal

When PMTIP have an extension stage, DLO officers in Barisal are sure to collaborate to our project. Problems of their activities are (1) field staff is in shortage, (2) lack of access to farmers (they said that they do not have transportation to farmers). They feel that model farmers are doing very well and their layer farms seem to be sustainable. They think that motivating farmers is very hard work, but if farmers can see a successful farm, they will get to know the meaning. Therefore, the best way to motivate uneducated people is let them participate to a field trip rather than just talk, and model farmers can be a motivator. ULO officers directly know more current situations of poultry farm there than DLO officers do.

(2) Comments from DLO officers and ULO officer in Bogra

DLO officers in Bogra told that they were busy for extension of biogas which could produce electricity. Both of DLO and ULO officers commented that the project seems very good due the performance of the model farmers and their increasing income. DLO officers commented that DLO and Rural Development Academy could contribute our project in terms of providing training programme on poultry management for local people. They also commented that farmers are not efficient for the trainers because it takes time to bring them up to be a trainer, while farmers could be a motivator. As farmers want more income, they will follow the style after seeing successful farms.

6. Result of interviews to motivated people surrounding model farmers in Barisal.

There are three farmers started to layer farms in Barisal, who were motivated by model farmers. Every farmer started the farm few months ago and profit has not produced yet. We had a chance to meet two motivated farmers among the three. (There are ten motivated farmers in Bogra who started layer farms.)

One motivated farmer, whose son is a medical doctor in UK, started 950-flock farm with 105,500Tk for the initial investment from his own saving. Some servants take care of the layers very well and the laying rate was attained 95%. The farmer told us that he had own idea for running layer farm and he saw a shed of a model farmer, and then he started the business with direction by field staff of BLRI. His family is well educated and speaks English, which is rarely in the area. His future plan is to expand the farm.

Another motivated person is a woman whose husband works for the Ministry of Women Development Affairs started layer farm seven month ago after seeing a shed of model farmer, and she started to gain earning from 28 weeks after introducing her chicks. She bought 300 flock of brownhick from BRAC for 30,000Tk, which is a local NGO. Although she introduced slat system which was introduced by the project, strong wind destroyed her shed and now the shed was rebuilt

without a slat. Field staff of BLRI kindly helped her to provide vaccination and technical advice.

7. Result of interview to BRAC officers in Barisal

BRAC, which is a local NGO in Bangladesh, have a poultry programme with micro-credit. They provide loan according to the four stage of growth of layers. 100 chicks with shed, vaccination, feed, and necessary training cost for 10,000Tk. Renters have to return their loan with 46 installment within 52 weeks. Weekly payment for 100 birds is 250Tk. The officer commented that renters earn 2,000-2,500Tk if chicks' mortality rate is less than 5%. However this estimation has not include the amount of interest. According to a ULO officer, average mortality rate is more than 10%, and laying rate in the most successful farm was around 60%, while around 80% in our model farmers. Thus, renters could not gain so much profit. PMTIP management style seems much advanced in terms of hygienic control. Renters does not have enough knowledge and skills for layer management, while our model farmers acquired enough knowledge and skill on layer farm. In this regard, PMTIP style seems to be more suitable for farmers than BRAC style. In case of having a loan from a financial institution, from banks are better than from major local NGOs in Bangladesh, if they can wait for the long procedure.

8. Request from a Japanese expert to JICA HQ

A Japanese expert requests JICA HQ that to strictly check the situation of supplied electricity and measurement to power failure in the organization where a expert works with before providing any equipment, otherwise the equipment will not be used. Less than 2kw should be for a refrigerator, and less than 30A and less than 6kw for a centrifuge in Bangladesh.

Project Design Matrix (PDM) of the Poultry Management Techniques Improvement Project in Bangladesh (1997.11.1-2000.10.31)

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal			
To enhance the poultry production at the farmer's level, especially small-scale holders in Bangladesh.	The amount of the poultry products are increased in Bangladesh.	Analysis of the statistic data of the MoFL.	Preference of egg and meat are stable.
Project Purpose			
To improve the poultry management techniques for small-scale poultry holders by developing appropriate technology on poultry feeding management, disease control, and developing the appropriate breed suitable for small-scale farmers.	Improved poultry management techniques are prepared for extension.	1. Poultry management manuals for small-scale farmers. 2. Project survey to analyze of the model farmers' cost balances.	Price of poultry feed, egg products, and poultry meat products are stable.
Outputs			
1. Poultry feeding management are improved 2. Poultry breeding management are improved 3. Poultry disease control techniques are improved 4. Poultry management techniques of related personals (C/Ps, DLS, TLS and NGO's staff) are improved	1. The high fertility rate, hatching rate, brooding rate, laying rate, and low mortality rate is realized in the parent stocks and chickens in the model shed of BLRI. 2. The C/Ps set the appropriate annual operation plan for breeding. 3.-1 The number of disease type diagnosed in BLRI are increased. 3.-2 The high brooding rate, laying rate and low mortality rate is realized in the parent stocks and chickens in the model shed of BLRI. 4.-1 Frequency of the training and the number of the participants are increased. 4.-2 The manual of the poultry management techniques is prepared and distributed to the related organizations.	1. Project record of the feeding management of the parent stocks and chickens in the model shed. 2. The breeding plan prepared by the C/Ps. 3.-1 Project record of the poultry diseases diagnosis in BLRI. 3.-2 Project record of hygiene management 4. Project record of the training.	1.No new deadly diseases from outside. 2. Climate stability. 3.Coherence in the poultry management policy
Activity	Input		
1. Poultry Feeding Management (1) Management of incubation (2) Brooding management (3) Growing management (4) Adult Chicken management (5) Management of parent stock keeping 2. Poultry Breeding Management (1) Setting the annual operation plan for breeding farm (2) Assessment of flock performance (3) Selection birds for next generation 3. Poultry Disease Control (1) Understanding of major infectious diseases (2) Development of disease control and management measures (3) Development of disease control measures for farmers 4. Sub-site Activities (1) Selection of farmers (2) Training for farmers (3) Verification of poultry management for farmers level in BLRI (4) Demonstration of poultry management techniques for farmers (5) Training for related personals (C/Ps, DLS, TLS and NGO)	Input by Japan	Input by Bangladesh	
	1. Dispatch of Japanese Experts. 2. Provision of Machinery and Equipment. 3. Training of Bangladesh Personnel in Japan. 4. Infrastructure. 5. Dispatch of the mission from Japan.	1. Infrastructure 2. C/Ps and management staff. 3. Local cost.	
			Preconditions

資料 4. 関係者への質問票

バングラデシュ家禽管理技術改良計画 終了時評価 質問事項

(日本人専門家に対する質問事項)

1. 日本からの投入について

(1) これまで日本側から BLRI に対して、モデル鶏舎などの施設や様々な機材を提供してきたが、プロジェクト目標を達成するために貢献度が比較的高くなかった資機材や施設があれば教えて欲しい。もしそのようなものがあれば、今後同様のプロジェクトを他国で行う際の参考にしたい、その理由も併せて教えて欲しい。

(2) これまで 5 年間にわたって 14 名の研修員を日本に招聘してきたが、日本での研修はどのように効果的であったと思われるか。

(3) 日本で研修を受けたもののうちで、バングラデシュに帰国後、研修で得た知識や技術を実際に業務に適用した者の割合はどのくらいいると思うか。適用例があれば知っている範囲内で教えて欲しい。また、十分適用していない者はどうして適用していないと思うか。

2. BLRI の活動について

(1) BLRI は当プロジェクト活動に十分な予算を配分していると思うか。もしそうではない場合、どのような理由でそうであると思うか。予算がつくタイミングはどうであったか。

(2) BLRI はプロジェクトに対して、十分な数の人材を配置してきたか。もしそうではない場合、その理由はどう思われるか。

(3) C/P 配置の適性度はどうであったか。C/P 機関の責任者が当プロジェクトにどの程度関わってきたか。C/P のプロジェクト活動に対する主体性、積極性はどうか。何か変化が見られたか。その理由は何か。主体性及び積極性をより向上させるにはどのような手段をとると効果的と思われるか。

(4) BLRI はプロジェクト活動を行うのに十分な施設、土地、資機材、消耗品を提供及び負担してきたと思われるか。もしそうではない場合、その理由はどうしてだと思われるか。

(5) C/P は期待していたような十分な知識と技術をどの程度身につけたと思うか。その理由は何か。

(6) BLRI の将来性についてどう思うか。今後 BLRI が技術開発をどのようにしていくと思われるか。今後 BLRI の運営方法や戦略などで改善した方がいい点は何かあるか。

(7) C/P はプロジェクト終了後も BLRI で働きつづけると思うか。

(8) プロジェクト終了後、BLRI が活動を継続していく上で、一番の障害が予想されることは何か。そ

の要因は何だと思われるか。その対策についてはどう考えるか。

(9) プロジェクト終了後、C/P は日本人専門家の補助なしで、資機材や施設の維持管理を十分行っているかどうか。独自で維持管理できるように何か対策をとったか、または対策をとる計画があるか。資機材の部品や消耗品（試薬品を含む）を独自で入手していくことができるか。その対策がとられているか。飼料開発分野についてはどのように考えるか。

3. プロジェクト運営管理について

(1) 想像でプロジェクトマネージャーの立場になって頂き、もし予算が削減された場合は、投入（日本からの専門家派遣、機材供与、研修員派遣）のどの部分を減らしますか。またどの分野の活動を減らしますか。理由も併せて教えてください。

(2) 同じ設定で予算が増額された場合、どの部分の投入を増やしますか。また、どの分野の活動を増やしますか。理由も併せて教えてください。

(3) 飼料開発に関しては CIDA からの研究成果を共有できることを期待し、また JICA と CIDA 協調のいい事例になることを期待してプロジェクト計画を立てていたが、CIDA のプロジェクトが進まなかった理由を参考までに教えてください。

(4) 当プロジェクトの実施方法について、役割分担、関係者間のコミュニケーションなどの問題はないかどうか。もしあればその主たる理由は何か。他のプロジェクトも参考になるような実施上の改善方法はないか。

(5) プロジェクトのモニタリングの方法について。システムティックなモニタリング方法を行っているかどうか。（詳細活動計画表をもとにモニタリングをしているか。サブサイト戦略書をもとにモニタリングをしているか。サブサイトからの情報のフィードバックをどのようにしているか等）

(6) プロジェクトが BLRI 及びサブサイト地域にもたらした影響（プラスのインパクトとマイナスのインパクト）を教えてください。

4. サブサイト活動について

(1) モデル農家はプロジェクトチームにより導入された技術を無理なく導入でき、プロジェクト終了後も継続的に適用してくとと思われるか。

(2) サブサイトの選定基準について、地理的・気候的・社会的観点などから見て、選ばれた4箇所のサブサイトが今後の普及対象となるような汎用性の高いサブサイトといえるかどうか。

(3) モデル農家の選定基準について、負債の状況・宗教・民族的背景・家族構成・教育レベルなどの観点

からみて、選ばれたモデル農家が今後の普及対象となる汎用性の高い農家といえるかどうか。

5. 普及について

(1) 中間評価時の提言事項（プロジェクト成果の広報の拡充と普及局との連携促進）に対してどのような対応をし、その進捗状況について。

(2) プロジェクト成果をもって、小規模農家に対する普及の準備がどの程度整ったと思いますか？

(3) 当プロジェクトで開発された技術を全国に普及するとすると、どのようなプラスのインパクトまたはマイナスのインパクトが小規模農家にもたらされると想定されるか。

(4) BLRI と普及局との連携の体制について。連携体制が十分ではない場合、その理由と今後の対策について。

6. 外部要因について

(1) モデル鶏舎とモデル農家にひなを導入後に、新たな悪性疾病が外部から進入していないかどうか。

(2) モデル鶏舎とモデル農家にひなを導入後に、養鶏を行うにあたって大きな被害をもたらすような異常気象があったかどうか。

バングラデシュ家禽管理技術改良計画 終了時評価 質問事項

(JICA バングラデシュ事務所への質問事項)

(1) 最新の国家政策（第6次5カ年計画）によると栄養水準の向上、貧困削減、または小規模農家への畜産振興を重点課題にしているかどうか。

(2) プロジェクト活動をどのようにモニタリングしているか。システムティックにモニタリングを実施しているかどうか。今後のモニタリング計画について。

(3) 他の JICA スキームとの連携、国内事業との連携、また他ドナー、NGO との連携があるかどうか。それが結果として効率性が高まったといえるかどうか。

Questionnaire to C/Ps pertaining PMTIP

1. Inputs from JICA

(1) So far, 20 Japanese experts have been sent to PMTIP in the fields of disease control, poultry management, rural development, nutritive analysis, media technology, and project leaders and co-ordinators. How much do you think these fields are appropriate to attain the project goal? How do you think the timing to send those experts for this project?

(2) How do you think Japanese experts have been adequately contributed for attaining the project purpose?

(3) So far, we have provided facility including model sheds and various kinds of equipment to BLRI. After completing this project, which equipment and facility would not keep using for project activity? If there is, please let us know the main reasons just for the reference to the other project. How was the timing to provide that equipment?

(5) While we have invited 14 BLRI staff members for the training in Japan over 5 years, how much do you think such training in Japan was effective? Why do you think so?

(6) About how many % of trainees in Japan applied the knowledge and skills acquired at training in Japan on the activities after their coming back to Bangladesh? If there was, how did he/she apply? Please let us know the main reasons why some of trainees could not apply the knowledge and skills after their coming back to Bangladesh.

2. Activities at BLRI

(1) Do you think BLRI has provided enough budget for PMTIP? If not, why do you think so? Are they allocated at good timing?

(2) Do you think BLRI has allocated appropriate number of personnel for PMTIP? If not, why do you think so? Were they provided at good timing?

(3) Do you think BLRI has provided enough facility and equipment for PMTIP? If not, why do you think so?

(4) Do you think that C/Ps are going on to work for BLRI after completing this project? If not, why?

(5) Can you foresee that BLRI will still be the leading research institute in Bangladesh for the future? Why do you think so? Do you find any areas of improvement for implementing the project activities at BLRI?

3. Project Management

(1) Please imagine a case of decreased budget, and if you were a project manager, which input should be removed? Inputs mean that accepting Japanese experts, providing equipment, and sending trainees to Japan. Why do you think

so?

(2) In the same case of decreased budget, and if you were a project manager, would you like to reduce which areas of activities? Why?

(3) Please imagine a case of increased budget, and if you were a project manager, would you like to increase which inputs? Why?

(4) In the same case of increased budget, and if you were a project manager, would you like to expand which areas of activities? Why?

(5) Is there any linkage to other donors projects to this project? How about linkage to other JICA scheme? How about to NGOs? Do you think such linkage has contributed to increase efficiency of this project? Why?

(6) In this project, were there any problems related to the ways of managing the project? How about the ways of work-sharing among project members? How about communication among project team members? (If there is, are there any good ways to improve such situation?)

(7) In terms of amount of inputs from JICA that is sending Japanese experts, providing equipment, accepting trainees to Japan, to be honest, how do you think the outcome of this project, comparing other donors' projects?

(8) We were expected to receive research outcome of CIDA that is feed development project in Bangladesh, and that could be a good example of joint cooperation of CIDA and JICA. But, to be honest, can you let us know what seem to be the major difficulties to do so?

(9) How do you monitor the progress of this project? Is there any systematic ways of monitoring?
How do you monitor the sub-sites' activities?

4. Activities in Sub-sites

(1) After completing this project within half year, do you think that model farmers are easily able to apply the poultry management techniques introduced by the project team without supporting by the project team? After completing this project, do you think model farmers are willing to continue the ways, which they have learnt so far?

(2) How much do you think that natural, geographical, and climatic diversity of Bangladesh reflect on selecting 4 sub-sites? We assume that environment surrounding poultry management must be various in Bangladesh, likewise climate for poultry management, geographical situation such as frequency of flood, style of poultry management.

(3) How much do you think that diversity of small farmers in Bangladesh reflected on selecting model farmers? Diversity includes indebtedness, religion, ethnicity, family situation, with or without any side-job besides agricultural

work, educational status, etc.

5. Technical Extension after Completing This Project

(1) We proposed to promote cooperation to DLS at the mid-term evaluation in November 2000. How is the situation afterwards?

(2) As the result of this project, how much do you think that BLRI and DLS are ready for extension for small-scale farmers?

(3) Please imagine, suppose DLS decided to extend the ways which PMTIP developed, what kind of positive and negative impacts would be brought to small-scale farmers?

(4) Has the project brought any positive or negative impacts? Please let us know any changes occurred in the BLRI and sub-sites area as the result of project's impacts.

6. External Condition

(1) (Did any new deadly diseases occur after introducing chicks to model shed and model farmers?)

(2) (Can you recall the climate over a few years? Has the climate over a few years caused any deadly damage to poultry management?)

2002.5.15

Questionnaire to C/Ps pertaining PMTIP

1. Poultry feeding management techniques

After the project, will you be able to manage poultry feeding by yourself? If not, please let me know the reasons why and the items (i.e. management of incubation etc.).

2. Poultry breeding management techniques

After the project, will you be able to manage poultry breeding by yourself? If not, please let me know the reasons why and the items (i.e. assessment of flock performance etc.).

Please let me know which breed, i.e. WR, WLH, RIR, and BPR, is most suitable for Bangladesh. Could you tell me the reasons why?

3. Poultry disease control techniques

After the project, will you be able to control poultry disease by yourself? If not, please let me know the reasons why and the items (i.e. sanitary management etc.).

4. Sub-site Activities

Will model farmers be able to manage their poultry system by themselves after the project? If not, please let me know the reasons why.

Will model farmers continue their poultry system by themselves after the project? If not, please let me know the reasons why.

5. Others

Do you think that through the project, the same poultry management system will be distributed in Bangladesh in the future? If not, please let me know the reasons why.

Questionnaire to DLS pertaining PMTIP

(1) Please compare the model farmers pertaining PMTIP to the poultry farmers not pertaining the project and do you think that the poultry management system in the project is more suitable for Bangladesh than the traditional systems?

(2) Do you think that the same poultry management system in sub-site will be distributed in Bangladesh in the future? If not, please let me know the reasons why.

Questionnaire to Ministry of Planning pertaining PMTIP

1. Does this project goal still meet the latest national policy of Bangladesh?
2. (Is the poultry management policy and poverty reduction, improving nutritional status, and poultry development are still in high priority for the latest national policy?)

Questionnaire to DLS pertaining PMTIP

1. Do you think outcome of this project has still needed or useful for possible small scale poultry farmers in Bangladesh?
2. Does DLS have any clear strategy or planning of extension for small-scale farmers? If there is please let us know.
3. Would you let us know how BLRI and DLS are linked systematically?
4. How do you think about the outcome of PMTIP?
5. Please imagine, suppose DLS decided to extend the ways which PMTIP developed, what kind of positive and negative impacts would be brought to small-scale farmers?
6. As the result of this project, how much do you think that BLRI and DLS are ready for extension for small-scale farmers? Does DLS have any concrete plan to promote the project outcome to nation-wide of Bangladesh through your extension officers?

Questionnaire to DLS Officers in Sub-sites pertaining PMTIP

1. We are reported that some neighboring farmers of model farms have followed the project style chicken farms. How do you think such farmers are making more profit after they followed the project style?
2. In terms of amount of inputs from JICA that is sending Japanese experts, providing equipment, accepting trainees to Japan, to be honest, how do you think the outcome of this project, comparing other donors' projects?

Questionnaire to Project Director or Project Manager of PMTIP

1. How do you monitor the progress of this project? Is there any systematic ways of monitoring?
2. How do you think Japanese experts have been adequately contributed for attaining the project purpose?
3. Do you think the C/Ps, project members of BLRI, have acquired enough knowledge and skills from Japanese experts as you expected?
4. Has the project brought any positive or negative impacts? Please let us know any changes occurred in the BLRI and sub-sites area as the result of project's impacts.
5. As the result of this project, how much do you think that BLRI and DLS are ready for extension for small-scale farmers?
5. Would you let us know how BLRI and DLS are linked systematically?
6. How do you think that DLS has any clear strategy or planning of extension for small-scale farmers?
7. Can you let us know how BLRI is going to manage research activities without JICA fund after completing this project?

Questionnaire to Model Farmers pertaining PMTIP

So far, the project team supported your chicken farms for a few years, but the project term is going to complete in half year. We would like to learn how do you feel about applying management skills which were instructed by project team? Was it easy to apply to your chicken farm? If not, can we share the reasons? Suppose your relatives or neighbour were interested to start setting up chicken farming as you do though PMTIP, to be honest, how do you introduce this business to them? Suppose they were very much like to start poultry farming business as you do, but they could not received any financial support, building a shed, for feed etc, how do you think they can manage to start the business? If yes, why do you think so? If no, in which points were improved or changed, they could start this business?

Questionnaire to CIDA pertaining PMTIP

We were expected to receive research outcome of CIDA that is feed development project in Bangladesh, and that could be a good example of joint cooperation of CIDA and JICA. But, to be honest, can you let us know what seem to be the major difficulties to do so?

2002. 5. 15

バングラデシュ家禽管理技術改良計画 終了評価 質問事項: (山本担当)

・日本人専門家に対する質問事項

I 有効性

1. プロジェクト目標の達成度

1) 鶏の飼養管理技術

- (1) C/Pへのふ化・育すう・育成・成鶏期の飼養管理技術移転は十分に行われましたか?

すなわち、全ての管理技術において、C/Pが自力で行う能力がついたと考えますか。

もし、そうでない項目があるとすれば、その項目について、プロジェクト終了までの期間でなにか対応される予定等あればお教え下さい。

- (2) プロジェクト開始前の対入ふ化率を教えてください。

- (3) 対入ふ化率50%程度ですが、この数値向上のためにプロジェクト終了までの期間でなにか対応される予定等あればお教え下さい。

2) 鶏の育種技術

(1) C/Pへの育種のための年間運営計画作成・鶏群の能力評価・後代採種のための種鶏選抜交配技術移転は十分に行われましたか?

もし、そうでない項目があるとすれば、その項目について、プロジェクト終了までの期間でなにか対応される予定等あればお教え下さい。

(2) プロジェクトで利用したWR・WLH・RIR・BPRのうち、最もバングラデッシュの気候風土にあうものはどれと考えますか?また、その理由もお教え下さい。

3) 鶏病予防

(1) C/Pへのバングラデッシュの重要家禽疾病の予防・治療技術移転は十分に行われましたか?

もし、そうでない項目があるとすれば、その項目について、プロジェクト終了までの期間でなにか対応される予定等あればお教え下さい。

4) サブサイト活動

- (1) C/Pへのモデル農家指導技術移転は十分に行われましたか?

もし、そうでない項目があるとすれば、その項目について、プロジェクト終了までの期間でなにか対応される予定等あればお教え下さい。

- (2) モデル農家への育すう・育成・産卵期管理技術移転は十分に行われましたか?

もし、そうでない項目があるとすれば、その項目について、プロジェクト終了までの期間でなにか対応される予定等あればお教え下さい。

II 外部条件などプロジェクト目標の達成に影響を及ぼしたものがあるか

- (1) プロジェクト期間中に通常では考えられないような気候の変動はありましたか?も

し、あればその状況とそのことによるプロジェクト活動へどのような影響があったのかお教え下さい。

(2) プロジェクト期間中にバングラデシュ政府の養鶏施策に変更がありましたか？

もし、あればその状況とそのことによるプロジェクト活動へどのような影響があったのかお教え下さい。

(3) プロジェクト期間中に大きな悪性疾病の発生状況がありましたか？もし、あればその状況とそのことによるプロジェクト活動へどのような影響があったのかお教え下さい。

(4) プロジェクト期間中に NGOs からのプロジェクト活動への阻害・推進要因があればお教え下さい。もし、あればその状況とそのことによるプロジェクト活動へどのような影響があったのかお教え下さい。

(5) その他、プロジェクト期間中のプロジェクト活動への阻害・推進要因があればお教え下さい。もし、あればその状況とそのことによるプロジェクト活動へどのような影響があったのかお教え下さい。

II インパクト

(1) 今回のプロジェクト活動により、今後今回と同様の養鶏システムがバングラデシュに根付くと考えられますか？もし、そうでないならば、その理由と対応方法等あればお教え下さい。

III 自立発展性

(1) プロジェクト終了後、モデル農家は継続的に養鶏を続けることができますか？もし、そうでないなら、その要因と対策等についてお教え下さい。

資料 5. 質問に対する回答

I 有効性

1. プロジェクト目標の達成度

1) 鶏の飼育管理技術

(1) について

鶏の飼育管理技術については、ふ化から成鶏管理に至る各分野の技術習得がなされたと考えている。6月4日に実施される活動報告で確認願いたい。

(2) について

プロジェクト開始前の数年間に実施された地鶏のふ化では、対入卵ふ化率は、平均すると50%程度とのことである。(バ側は、正確なデータを残していない。)

以下の理由から、プロジェクト開始前と開始後のふ化率の直接比較は、困難である。

- ・利用しているふ卵機が異なること。

(プロジェクト開始に合わせて、ベルギー製のふ卵機を導入した。プロジェクト実施前にBLRIが保有していたふ卵機とは、機種、操作法が異なる。)

- ・ふ化させる品種が異なること(プロジェクト開始前は、「地鶏」をふ化させている。)

- ・貯卵期間が異なること。(プロジェクト実施後は、後代採取の関係で貯卵期間は、「2週間」と長くなっている。)

- ・交配・人工授精法が異なること。(プロジェクト開始後は、家系ふ化のため、1羽の雄を5羽の雌に人工授精している。)

(3) について

プロジェクト終了までに、雛をふ化させる計画は無い。

ふ化率向上には、貯卵期間の短縮が有効であるが、育種実施上の制約がある。

現実的な対応として、以下の事項を指導しておきたい。

採取精液の速やかな雌への注入。

入卵前のふ卵機の連続運転による稼働状況のチェック。

2) 鶏の育種技術

(1) について

鶏の育種技術については、計画の作成から選抜・交配にいたるまでの各分野の技術習得がなされたと考えている。6月4日に実施される活動報告で確認願いたい。

なお、2元交雑鶏の能力評価法については、技術移転が未実施である。4月25日に7種類の2元交雑鶏をふ化させており、プロジェクト終了までに、大まかな評価法を指導したい。

(2) について

純粋種的能力水準からのみ判断すると、RIR 種が、最も、バングラデシュに適していると考えている。

高温・高湿度に対するストレス抵抗性などバングラデシュの気候風土に適していると思われる。

3) 鶏病予防について

重要疾病対策としての衛生管理手法、予防ワクチネーション、体調不良時の治療等のC/Pへの技術移転は、十分である。

4) サブサイト活動

(1) について

モデル農家指導技術移転は、十分に行われたと考えている。6月5日に実施される活動報告で確認願いたい。

(2) について

サブサイト間、又は同一サブサイト内の農家ごとに、技術の習得レベルに差異があると考えている。この原因として、農家のモチベーションに違いがあることが影響したと考えている。なお、常駐 C/P による指導や農家フォローアップ研修を行うなど技術水準向上の指導を継続していきたい。

II 外部条件

(1) について

通常では考えられない、気象変動はありませんでした。

(2) について

政府の養鶏施策に変更はありませんでした。

(3) について

①ニューカッスル病について

最初に技術実証を行った「コックスバザール」において、1戸のモデル農家でニューカッスル病（アジア型）が発生し、飼育鶏の50%程が廃鶏となった。発生理由は、バングラデシュでは頻発する停電のため、生ワクチンの品質確保が難しく、予防接種にもかかわらず、ワクチンが期待通りの効果を発揮出来なかったことによるものである。このことは、プロジェクト活動にとって、大変価値ある経験となり、バ国の悪い電気事情下でも効果を発揮し、なおかつ、長期間ワクチン接種効果を有する方法を確立できた。コックスバザールから遅れて実証展示を開始した3サブサイトでは、ニューカッスル病（アジア型）は発生していない。

②ガンボロ病について

1999年に日本から導入した種鶏雛に発生し、30～40%が斃死するという損害を蒙った。当時、日本で一般的に行われているワクチネーション法（生ワクチンの3回経口投与）に準じて、予防接種したが、満足のいく予防が出来なかった。この経験もプロジェクト活動にとって、大変に価値あるものとなった。不活化オイルアジュバンドワクチンの早期導入により、BLRI内で、バ国で流行している猛毒型の野外株がもたらすガンボロ病発生を効果的に抑えることが出来るようになった。なお、サブサイトの一部モデル農家で、ガンボロ病の発生を見ているが、オイルアジュバンドワクチンの幼雛に対する接種技術が影響していることが判り、接種法の改訂を進め、現在観察中である。

(4) について

当プロジェクトの活動は、技術の実証がメインであるので、NGOと連携した活動展開には至っていません。

Ⅲ インパクト

バングラデシュに適した小規模農家向け鶏飼育管理技術（飼料給与技術を除く。）が確立されたと考えています。

ただ、バングラデシュ全土に根付くのは、困難であり、地域特性を把握しながら、当技術の普及に向けた活動の実施が重要と考えています。

Ⅳ 自立発展性

各モデル農家の技術習得レベルに差異があり、全ての農家が養鶏を継続していくことは期待していない。

(日本人専門家に対する質問事項)

1. 日本からの投入について

(1) について

鶏病ラボは、診断活動、ワクチン効果モニタリング、血清学的サーベイ等で大きな成果をあげ、プロジェクト目標達成に向けて高い貢献をしてきた。しかし、衛生ラボに導入した一部の機器（真空凍結乾燥機、フリーザー）について、バングラデシュの電気事情などから、その活用が困難を極めた。

現地事情を十分に把握し、プロジェクト活動に適した機器の大きさと電力消費量の機種を選択することが重要である。

(2) 及び (3) について

合計11名のC/Pが、技術習得を目的に本邦研修を受講した。3名は、派遣期間2週間程度の視察型研修であった。

各C/Pは、程度の違いがあるが、帰国後、プロジェクト活動に貢献した。

研修の成果としては、次の事項が挙げられる。

- ・実践を通じた技術習得の重要性を理解したこと。
- ・チームとしての横の連携の重要性に対する認識が深まったこと。
- ・バングラデシュに適した技術開発に工夫を凝らすようになったこと。

(注)

①1998年受入の Emdadul Haque(現在の BLRI の D.G)、Syed Golam Kibria(当時の MOFL の副事務次官)及び2000年受入の Jahangir Alam (当時の BLRI の D.G) は、視察型の研修(派遣期間は、約2週間)であった。

②11名の本邦研修受講者の内、引続きプロジェクト活動に携わっているC/Pは、7名であり、他の4名のC/Pは、他機関への就職、または、BLRI支所へ配置換えとなった。

2. BLRI の活動について

(1) について

バングラデシュは厳しい財政事情にあるが、BLRIはプロジェクト活動に必要な経費を確保してきている。

(2) について

プロジェクト開始当初は、C/Pの配置数に問題があった。プロジェクト活動が本格化するにつれ、BLRIは、C/Pの増員に努力してきたと考えている。

(3) について

概ね、プロジェクト活動実施に問題が生じることなく、C/P が配置されてきたと考えている。
また、各C/Pは、当プロジェクト活動に積極的に取り組んできたと考えている。
現在のBLRIのDGは、当プロジェクトの理解者である。

(4) について

BLRIは、各種の制約（バ国の財政事情など）のなかで、プロジェクト活動に必要な対応をしてきたと考えている。

(5) について

C/Pは期待していた技術習得したと考えている。
BLRIの種鶏の飼育成績、モデル農家の技術実証の結果、マニュアルの取りまとめなどで、技術習得の成果が発揮されていると考えている。
また、ラボ担当のC/Pは、各種セミナーの講師を積極的にこなし、英文報告書を数々と作成するなど、知識・技術を身につけてきている。

(6) について

BLRIに施設、人材が整備されつつあり、技術開発能力は向上してきていると考えている。
今後とも、BLRIに対しては、基礎研究に加え、農家レベルに着目した技術開発の推進を期待している。

(7) について

正規採用職員は、今後とも、本プロジェクト成果の活用に取り組んでくれると考えている。
臨時雇用型のC/Pについては、プロジェクト終了後の身分が不安定であるが、引続きBLRIもしくは他の養鶏関係機関で勤務してくれることを期待している。
（他の意見）臨時雇用型のC/Pは、正式採用されれば、BLRIに働き続けられると思われる。正式採用の見とおしが無ければ、知識・技術を習得したC/Pは、教育機関（大学）などに雇用される可能性が高い。

(8) について

人材の確保である。公務員の増員が困難な事情のもとで、当プロジェクト実施を通じて育成された人材が、いかにBLRIに確保されていくかである。
その対策は、BLRIが社会的に認知される成果をあげることであろう。

(9) について

バ側C/Pが、関連施設の維持管理を実施出来るよう努力してきている。

鶏病診断において重要な鶏病抗血清類は、一般商品化されていないが、マレーシアのアセアン鶏病センター（JICA協力で整備）からの入手する方法がある。BLRIのスタッフ数名は、アセアン鶏病センターの研修で学んできている。こうしたルートを活用した鶏病抗血清類の確保をC/Pに検討させている。

飼料開発分野については、平成13年度に供与される機材は、維持管理が容易な機材である。特段の問題は生じないと考えている。

3. プロジェクト運営管理について

(1) について

プロジェクトマネージャーの立場なら、どの分野の活動に対しても、必要な予算が確保されるよう努力します。

(2) について

鶏の飼育管理部門、特に、飼料給与技術の開発に必要な器具・装置の整備と人材確保を考えるでしょう。

(3) について

CIDAプロジェクトそのものは、一定の活動を実施してきたと考えられます。しかし、「CIDAからの研究成果を共有」出来なかったのは、CIDAの活動重点項目と当プロジェクトが連携を期待した分野とブレがあったことによると考えています。

(4) について

プロジェクト開始時点で、プロジェクトの目標、活動内容に関し、関係者間で共通認識を持っていることが重要です。当プロジェクトの本格的活動に立ち遅れが見られたのは、プロジェクトの目標、活動内容に関し、日本側とバ側で考えの相違が見られたのが原因と考えています。

(5) について

詳細活動計画に沿ったプロジェクト活動の実施に努めてきました。サブサイト活動については、定期的（毎月第二土曜日を原則）に各サブサイト常駐のC/Pの参加を得たミーティングを開催しています。

(6) について

既に送付した最終評価用資料「10. インパクト」に記載した事項が、プラス面と考えています。マイナス面として考えられるのは、思いつきません。

4. サブサイト活動

(1) について

小規模農家が「技術が無理なく導入」でき、バングラデシュ農村部に適合する技術であることを最重点にして、技術の開発・実証を進めてきました。

(2) について

選定した4サブサイトでの実証成果から、技術実証の観点からだけではなく、当技術を普及させるための地域条件が把握できたと考えている。

(3) について

モデル農家での実証を通じ、当技術の普及対象とすべき農家の選定に関する情報が収集できたと考えている。

5. 普及について

(1) について

以下の活動を通じ、DLSとの連携強化に努めた。

・DLOの担当者を対象にした技術研修会、BLRIとDLSの連携を強化する研修会の開催や当プロジェクトで取りまとめた「マニュアル」を配布した。

また、プロジェクト成果については、BLRIの業績発表会、CIDAと連携した講習会を通じて、広報に努めた。

(2) について

飼料給与技術に未開発な部分が残されていることや①農家経営からの視点（鶏飼育による年間を通じた収入の安定確保策。雛導入と老鶏淘汰のローテーション対策など）、②バングラデシュの各地域特性を踏まえた技術的課題の把握と対応策を検討していく必要があるが、概ねバングラデシュに適した普及可能な技術が開発されたと考えている。この技術を普及させるための方策については、これからの検討課題と考えている。

(3) について

①プラス面としては、以下の事項が想定される。

- ・収入の向上による教育レベルの向上。
- ・鶏卵・鶏肉消費による栄養水準の向上。
- ・女性の起業マインドの高揚。
- ・養魚（餌の一部に鶏糞を活用）との組合せによる地場産業の育成。

②マイナス面としては、以下の事項が想定される。

- ・糞尿の発生による悪臭・蝇の発生。
- ・庭先養鶏の減少による地鶏資源の枯渇。

(4) について

MOFLの現事務次官は、試験研究機関（BLRI）と指導機関（DLS）の連携の重要性を認識し、その強化に努めている。両機関の連携が必要な活動の実施とMOFLの指導力で連携は強化されていくと考えている。

6. 外部要因について

(1) について

新たな悪性疾病（ND，IBD以外）として、血清学的調査の示す範囲でAvian Influenzaの陽性地鶏が検出されている。非強毒型であろうと推測しているが、季節渡り鴨も多く、キャリアーが年中バングラデシュに棲息している環境にあるので、注意を怠ることは出来ない。「Avian Influenza」以外では、ND，IBDに肩を並べる疾病は発生していない。

(2) について

バングラデシュの高温・多湿は、鶏飼育に適した気象条件ではない。しかし、プロジェクト実施期間中、鶏飼育に大きな被害をもたらす異常気象は、生じなかった。

JICAバングラデシュ事務所への質問に対する回答

(1) 第6次5ヶ年計画は未だ策定されていないが、現5ヶ年計画で農業セクター全体と畜産サブセクターが与えられている位置づけと大きく異なる政策が採られるとは考えにくい。

現5ヶ年計画の策定時、全雇用の1/3、全労働人口の2/3が農業（畜産含む）に従事しており、農業セクター全体でGDPの30%以上を生産している。畜産部門は、特に土地を所有しない国民の生計に重要であり（特に厳しい生活条件にある女性）、また、国民栄養改善の観点からも重要な地位を与えられている。

養鶏部門では、小規模養鶏の推進が謳われている他、5年間で卵生産を約1.7倍に増加させたい（28億個→47億個）というのが現5ヶ年計画の目標である。現時点の達成度に関するデータは未だ得られていない。

(2) モニタリングは主に日本人専門家からの報告と調査団等が来バした際のサイト訪問同行、セミナー開催時などの先方政府関係者との会談などを通して行っている。システムティックなモニタリングを行うには至っていない。

(3) 他のJICA事業との連携では、個別派遣専門家の小規模養鶏における女性の役割についての調査と調査結果のプロジェクトに対するフィードバック、女性局及びオイスカとの協力で実施している女性農業研修（現地国内研修）の養鶏トレーニングに対する本プロジェクトの貢献（指導）などがある。連携により効率性が向上したと考えられるが、どちらかと言うと、本プロジェクトが他スキームに対して貢献している場合が多いと考えられる。

他ドナーとの連携については、カナダCIDAが畜産普及局（DLS）と実施している協力を支援した。全体として、連携により我が方プロジェクト関係者の視野が広がること、本件協力の認知度が向上する等の効果があったと考えられる。余剰農産物や農業副産物等による経済的な飼料の開発や技術普及に関しては、他ドナーやNGO等との連携により、事業効果が増すと思われる。

Questionnaire to C/Ps pertaining PMTIP.

(C/Pからの回答)

1. Inputs from JICA

- (1) So far, Japanese experts have been sent to PMTIP in the fields of disease control, poultry management, rural development, nutritive analysis, media technology and project leaders and co-ordinators. How much do you think these fields are appropriate to attain the project goal? How do you think the timing to send those experts for this project?

The fields of experiences/knowledge of the Japanese Experts are appropriate to attain the project goal. Become the project leaders and coordinators maintained all sorts of relevant communication, coordination and provided technical supports in developing technologies for disease diagnosis, breeding and feeding management, chicken rearing, sub-site activities and model farming development in sub-sites.

- (2) How do you think Japanese experts have been adequately contributed for attaining the project purpose? Yes.

- (3) So far, we have provided facility including model sheds and various kinds of equipment to BLRI. After completing this project, which equipment and facility would not keep using for project activity? If there is, please let us know the main reasons just for the reference to the other project. How was the timing to provide that equipment?

After completion of this project all of the equipments and created facilities would be kept using for the project activity.

The equipments for disease diagnosis were provided gradually and installed duly and the disease diagnostic chemicals/reagents/inputs arrived in May' 2002.

- (4) While we have invited 14 BLRI staff members for the training in Japan over 5 years, how much do you think such training Japan was effective? why do you think so?

The training course were very much effective because most of those were practical oriented.

- (5) About how many % of trainees in Japan applied the knowledge and skills acquired at training in Japan on the activities after their coming back to Bangladesh? If there was, how did he/she apply? Please let us know the main reasons why some of trainees could not apply the knowledge and skills after their coming back to Bangladesh.

Nearly 90% of the trances are applying their acquired knowledge and skills after coming back to Bangladesh. They are working in the sheds hatcheries, disease diagnosis laboratory and sub-sites for technology development and adaptation and model farming development.

2. Activities at BLRI

- (1) Do you think BLRI has provided enough budget for PMTIP? If not, why do you think so, Are they allocated at good timing? Yes.
- (2) Do you think BLRI has allocated appropriate number of personnel for PMTIP? why do you think so? Were they provided at good timing?

Yes, Bangladesh Livestock Research Institute has allocated sufficient number of personnels as per the existing availability.

- (3) Do you think BLRI has provided enough facility and equipment for PMTIP? If not, why do think so?

Due to lack of availability BLRI could not provide enough facility (shed) and equipment for the project.

- (4) Do you think that C/Ps are going on to work for BLRI after completing this project? If not, why?

The counterparts of the project will work for the BLRI after completion of the project which has been supposed to be handed over to revenue head.

- (5) Can you foresee that BLRI will still be the leading research in Bangladesh for the future? Why do you think so? Do you find any areas of improvement for implementing the project activities at BLRI?

The feed analytical and bio-technological laboratory need to the well equipped BLRI will be the leading research institute in Bangladesh in the future. Because, most of the infrastructure and manpower essential equipment are going to be installed.

3. Project Management

- (1) Please imagine a case of decreased budget, and if you were a project manager, which input should be removed? Inputs mean that accepting Japanese experts, providing equipment, and sending trainees to Japan. Why do you think so?

Sending trainees to Japan should be reared, because Japanese experts can trained C/Ps.

- (2) In the same case of decreased budget, and if you were a project manager, would like to reduce which areas of activities? Why?

Construction works, because within available facilities activities should be carried out.

- (3) Please imagine a case of increased budget, and if you were a project manager, would you like to increase which inputs? Why?

Increase the areas of research activities, because to help more people for poultry alleviation.

- (4) In the same case of increased budget, and if you were a project manager, would you like to expand which areas of activities? Why?

Increase land, building and other facilities because Infrastructures are necessary for research.

- (5) Is there any linkage to other donors projects to this project? how about linkage to other JICA scheme? How about to NGOs? Do you think such linkage has contributed to increase efficiency of this project Why?

No, Depend on the nature of the project. Good, yes.

- (6) In this project, were there any problems related to the ways of managing the project? How about the ways of work sharing among project members? How about communication among project team members? (If there is, are there any good ways to improve such situation?)

Good, the team spirit of the project is very good communication through regular meeting and dis.....

- (7) In terms of amount of inputs from JICA that is sending Japanese experts, providing equipment, accepting trainees to Japan, to be honest, how do you think the outcome of this project, comparing other donors' projects?

It has good impact on the project.

- (8) We were expected to receive research outcome of CIDA that is feed development project in Bangladesh, and that could be a good example of joint cooperation of CIDA and JICA. But to be honest, can you let us know what seem to be the major difficulties to do so?

- (9) how do you monitor the progress of this project? Is there any systematic ways of monitoring? How do you monitor the sub-sites' activities?

Monthly field visits by experts and senior person regular field of dispatched scientific officer and field staff.

4. Activities in Sub-sites

- (1) After completing this project within half year, do you think that model farmers are easily able to apply the poultry management techniques introduced by the project team without supporting by the project team? after completing this project, do you think model farmers are willing to continue the ways, which they have learnt so far? Yes.

- (2) How much do you think that natural, geographical, and climatic diversity of Bangladesh reflect on selecting 4 sub-sites? We assume that environment surrounding poultry management must be various in Bangladesh, likewise climate for poultry management, geographical situation such as frequency of flood, style of poultry management.

After field by the experts.

- (3) How much do you think that diversity of small farmers in Bangladesh reflected on selecting model farmers? Diversity includes indebtedness, religion, ethnicity, family situation, with or without any side-job besides agricultural work, educational status, etc.

Almost relevant to the objectives of the project.

5. Technical Examination after Completing This Project

- (1) We proposed to promote cooperation to DLS at the mid-term evaluation in November 2001. How is the situation afterwards?

Cooperation with DLS increased.

- (2) As the result of this project, how much do you think that BLRI and DLS are ready extension for small-sale farmers?

After complete verification of the project.

- (3) Please imagine, suppose DLS decided to extend the ways which PMTIP developed, what kind of positive and negative impacts would be brought to small-scale farmers?

Impact on soci-economic states of the be

- (4) Has the project brought any positive or negative impacts? Please let us know any changes occurred in the BLRI and sub-sites area as the result of project impacts.

Position impact on the sub-sites.

6. External Condition

- (1) (Did any new deadly diseases occur after introducing chicks to model shed and model farmers?)

IBD, ND are deadly diseases.

- (2) (Can you recall the climate over a few years? Has the climate over a few years caused any deadly damage to poultry management?)

Not so important havoc due on the poultry industry the climatic change in Bangladesh.

Questionnaire to C/Ps pertaining PMTIP

1. Poultry feeding management technique

After the project, will you be able to manage poultry feeding by yourself? If not, please let me know the reasons why and the items (i.e. management of incubation etc.) Yes.

2. Poultry breeding management techniques.

After the project, will you be able to manage poultry breeding by yourself? If not, please let me know the reasons why and the items (i.e. assessment of flock performance etc.). Yes.

3. Poultry disease control techniques

After the project, will you be able to control poultry disease by yourself? If not, please let me know the reasons why and the items (i.e. sanitary management etc.). Yes.

4. Sub-site Activities.

Will model farmers be able to manage their poultry by themselves after the project? If not, please let me know the reasons why. Yes.

Will model farmers continue their poultry system by themselves after the project? If not, please let know the reasons why.

Depends on the availability of inputs for poultry business.

5. Others

Do you think that through the project, the same poultry management system will be distributed in Bangladesh in the future? If not, please let me know the reasons why. Yes.

Questionnaire to Project Director or Project manager of PMTIP.

1. How do you monitor the progress of this project? Is there any systematic ways of monitoring?

The progress of this project is monitored through physical and practical observation and participation through the assignments given to the counterpart scientists and staff members as per the set objectives/goals. In this regard weekly and monthly meetings (chaired by the DG/PD) are arranged in presence of JICA Experts, counterparts and BLRI staff members. In addition, the sub-site activities and programmes are monitored through regular/intensive visit to each of the four sub-sites of the project. Scientific officers and staff members of the project staying there are monitored by Project Director.

2. How do you think that Japanese experts have been adequately contributed for attaining the project purpose?

The contribution of the Japanese Experts are quite satisfactory and appreciable for attaining the all concerned purposes of the project. Since the commencement of the project, they have performed all sorts of activities regarding the infrastructure development (disease diagnosis laboratory, poultry shed, hatchery building, poultry rearing model shed, chick brooder devices, temporary incinerator etc), farmer selection, programme formulation and execution in all the sub-site; arrangement of counterpart training and study tours in Japan and farmers' training in all the sub-site; staff training in main site (BLRI), training for DLO and TLO of DLS, procurement of vehicles, research and poultry rearing inputs/equipments.

3. Do you think that the C/Ps and project members of BLRI, have acquired enough knowledge and skills from Japanese experts as you expected?

Under the prevailing/existing facilities created by the JICA and BLRI, the counterparts and staff members of the project and BLRI have acquired new concepts and techniques and developed their skills from the Japanese Experts as expected so far.

4. Has the project brought any positive or negative impacts? Please let us know any changes occurred in the BLRI and sub-site area as the result of project's impacts.

The project activities have already brought many positive impacts towards the development of the rural poultry in this Country as well the research achievements at BLRI. In each sub-site, the target group farmers/beneficiaries of sub-site received intensive training and acquired experiences on intensive poultry rearing. The farmers have concentrated/applied knowledge and acquired concepts in practical poultry rearing. It could be revealed from the information collected from each sub-site that the farmers are now in a position to make them self dependent through intensive small scale poultry rearing at their own management practices. Likewise, a big number of poor farmers have been encouraged/interested of the nearest neighboring areas of each sub-site. The interest of the neighboring farmers has been increased for improved poultry rearing after being observed the profitability of the selected farmers.

The poultry breeding, feeding, technology transferring and disease diagnostic techniques have been developed under the efforts of the project which in turn shall positively enhance the generation, development and adaptation of technologies for the development of the rural poultry sector of the country.

The skills of the staff members of the project as well as BLRI and DLS have also been developed through practical training for the execution of technology transfer, extension and research programmes. Research and experimental poultry rearing facilities have been increased through this project. The employment opportunities, cash income and protein intake have been increased and the poverty level reduced in the sub-sites and their neighboring localities due to increased poultry rearing.

Thus the project has certainly brought positive impact in the BLRI and Sub-site areas.

5. As the result of this project, how much do you think that BLRI and DLS are ready for extension for small-scale farmers?

The models developed for small scale poultry farming could be transferred to the small scale farmers. In addition, the improved poultry rearing and disease diagnostic techniques could also be transferred to the concerned District and upazilla veterinary hospitals for easy, economic and rapid poultry disease diagnosis through practical operation and result demonstration. Technology development is a continuous process which needs future support.

6. Would you let us know how BLRI and DLS are linked systematically?

One of the main objectives of this project is to improve and transfer technologies among the target group beneficiaries. However, the BLRI and JICA Experts have been maintaining all possible sorts of systematic linkage with the DLS for effective selection of sub-site areas and activities of sub-sites. Moreover, since the commencement of the project, DG, DLOs and TLOs of DLS are informed/invited in planning and implementing the main site and sub-site activities of the project. In addition DG of DLS is one of the members of the JCC. The District Livestock Officers and the Upazilla Livestock Officers of the respective sub-site areas have been involved officially in all respects for proper execution of sub-site programmes. The concerned officials have been training up as per the programme.

7. How do you think that DLS has any clear strategy or planning of extension for small-scale farmers?

At the moment the Department of Livestock Services (DLS) has specific strategy or planning of extension for small-scale farmers.

8. Can you let us know how BLRI is going to manage research activities without JICA fund after completing this project?

Being a research institute Bangladesh Livestock Research Institute (BLRI) has a mandate to conduct research, training, technology innovation and first line technology transfer for the clients. JICA fund is essential to continue the activities in a broader extent. Manpower is an important factor for containing the activities. Bangladesh Livestock Research Institute needs to transfer the skilled manpower to the revenue budget for continuing and managing the research that activities after the completion of the project period.

Questionnaire to Model farmers pertaining PMTIP

So far, the project team supported your chicken farms for a few years, but the project term is going to complete in half year. We would like to learn how do you feel about applying management skill which were instructed by project tea? Was it easy to apply to your chicken farm? If not, can we share the reasons? Suppose your relatives or neighbor were interested to start setting up chicken farming as you do though PMTIP, to be honest, how do you introduce this business to them? Suppose they were very mush like to start poultry farming business as you do, but they could not received any financial support, building a shed for feed etc. how do you thick they can manage to start the business? If yes, why do you think so? It no, in which points were improved or changed, they could start this business?



POULTRY SECTOR DEVELOPMENT PROJECT

A project of the Canadian International Development Agency (CIDA)

(CIDAからの回答)

To: Hajime Nabeta, Deputy Resident Representative
Japan International Cooperation Agency

From: Ron Dalglish, Team Leader
Poultry Sector Development Agency

Date: May 23, 2002

Subject: Questionnaire – PMTIP Final Evaluation

Thank you for asking me to participate in the evaluation of the PMTIP project by providing comments on the attached questionnaire.

I have added comments where I have information or an opinion. For the items for which I have insufficient information or no opinion, I have left them blank.

In general, I can say that the members of the PMTIP team have been most cooperative. Whenever, we have had a question, they have been quick to respond. For example, on one occasion we became aware of a concern by many of the larger commercial poultry producers that the vaccines available for preventing various poultry diseases did not seem to be effective.

Because disease control is outside the mandate of our project, we felt that we did not have the appropriate experts to provide all the information farmers needed. Even though PMTIP works with smaller poultry producers, they indicated their willingness to assist us in holding a seminar on poultry disease control, aimed at commercial poultry producers. This co-operation was successful in providing useful information to over 100 poultry farmers.

If you require any additional information, please feel free to contact me.

Ron Dalglish

cc: Sylvia Islam, Development Officer
Canadian High Commission



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