

INDIA AND PEACE CORPS

A Fortuitous Partnership that launched India's Modern Poultry & Egg Production Industry*

INTRODUCTION

Sometimes it seems the “stars align in their courses”. And so it happened in the 1960s when a series of factors came together.

1. The Government of India was committed to improving life in its 600,000 villages through a nation-wide Community Development and Agriculture Extension program.
2. India's Health and Nutrition officials recognized the need to infuse protein into the diet of the majority of the people.
3. There existed a kernel of awareness among the agricultural and animal husbandry officers that the techniques of modern poultry production (hybrid chicken strains, enclosed poultry houses, nutritious feed) might be adapted to the India setting and had the potential to produce protein rich eggs and meat on an enhanced scale.
4. Within the Community Development and Agriculture Extension program there was a very limited number of staff focused on or experienced in the specifics of modern scientific poultry production.
5. Several international technical assistance and donor organizations, along with two commercial poultry breeding companies, were expressing interest in upgrading the poultry production in India.
6. Throughout India there existed progressive farmers interested in new techniques, technologies, genetics and farm management practices that could expand their productive capacity and income.
7. In September of 1961 a group of American Peace Corps Volunteers, bringing background and training in Farm Management, Agriculture Extension, Dairy and Poultry Husbandry, were assigned to various agriculture stations, extension offices and communities in Punjab.

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A Bit of History

Over the 62 years of its existence, most Peace Corps country programs have succeeded in



meeting two of Peace Corps three stated goals of promoting “a better understanding of Americans on the part of the people served,” and promoting “a better understanding of other peoples on the part of Americans.” Most Peace Corps programs also succeeded, in varying degrees and often on a small or local scale, in providing

productive assistance to the people and communities which they served. However, relatively few Peace Corps programs have had as substantial an impact on a country’s economy and the quality of life of its people as have those American Peace Corps Volunteers whose service in the 1960s and ‘70s helped initiate a revolution in the poultry industry that eventually spread across the sub-continent that is India.

President Kennedy inaugurated the Peace Corps in 1961. India and Prime Minister Nehru hosted its initial group of Volunteers that same year. The men and women of the first three Peace Corps groups sent to India, serving in Punjab, Himachal Pradesh and Mysore, soon became involved in the launching of demonstration pilot projects in poultry and egg production. With most of the Volunteers’ training in Modern Poultry Production having only been gained in their three months of training in the United States, few could have imagined the impact that their efforts would have over the next half century, but as so wisely stated in the Old Testament (Judges 5:20) **“the stars were in their courses”....it was but for the Peace Corps Volunteers and the Indian counterparts, to hitch their wagons to those stars and against all odds, make great things happen”**

In late 1962 the Indian staff members of the American Peace Corps' administration in New Delhi, along with their American colleagues, realized that Modern Poultry Production was a program focus that could contribute significantly to the country's food and nutrition needs, and also was an arena in which Peace Corps Volunteers could be of significant assistance to the farmers, the communities, the Extension Staff and the Poultry and Animal Husbandry officers at the state level. With the consent of the Government of India, Peace Corps Delhi initiated conversations with poultry and agriculture development officials in four states. Simultaneously, the Peace Corps Washington Training Division initiated programs led by poultry experts in California, Ohio, Minnesota and Wisconsin which would prepare future Peace Corps Volunteers to assist in establishing demonstration projects and bringing the techniques of modern poultry production to village farmers.

In this milieu the decision by the Peace Corps organization, to commit extensive resources and to partner with India's fledgling poultry extension structures played a crucial role in launching India's expansion of poultry and egg production.

In the early 1960's USAID implemented a "Participant Training" program funding the travel and Master's Degree education at American agriculture universities of several hundred Indian officers involved in the agriculture and community development extension programs throughout India. Many of the participants returned and played a key role in the development of poultry and dairy breeding programs, the propagation of hybrid rice, corn and sorghum that laid the foundation for India's "Green Revolution" which enabled the country to move from food shortages in the 1960's to food sufficiency by the mid-1970's. Amongst those were PC Thomas, Joint Director of Poultry, Kerala, and KN Pai, Joint Director of Poultry Husbandry, Mysore (Karnataka). Both gentlemen and others played a key role in partnering with and supporting the work of the Peace Corps Volunteers in launching the expansion of the poultry industry.

Peace Corps in India-by 1965 An Official Partnership

It is vital to note the process which led to Peace Corps volunteer programs arriving in India. No program was fielded unless it was first requested by the state government and approved by the Government of India's(GOI) Department of Economic Affairs.

Subsequently Peace Corps/Delhi would receive an "indent" from DEA for the volunteer technical areas and numbers. The state government requests often involved discussions between the Peace Corps Regional staff and the state government officials of the concerned technical department. In the case of poultry, in Kerala and Karnataka the discussions were with the Departments of Animal Husbandry which

either initiated the requests or responded to the Peace Corps suggesting a program.

In Kerala the Peace Corps Regional Director, Kellogg Smith, supported by Jack Slattery, discussed the possibility of a volunteer program in poultry extension with M.N. Menon, Director of Animal Husbandry and PC Thomas, Joint Director (Poultry). When agreement was reached, the Department raised the possibility with the Ministry of Development where it was approved and forwarded to the GOI's Department of Economic Affairs.

In Karnataka the discussions took place with the Director of Animal Husbandry, Dr. D Rudraiah who organized state government support and forwarded the request to Mr. GVK Rao, the Development Commissioner. From there it went to the Government of India's DEA. In both cases, from the beginning there was substantial state government initiative and involvement in requests for Peace Corps assistance in the launching a program of Modern Poultry Production throughout both states..

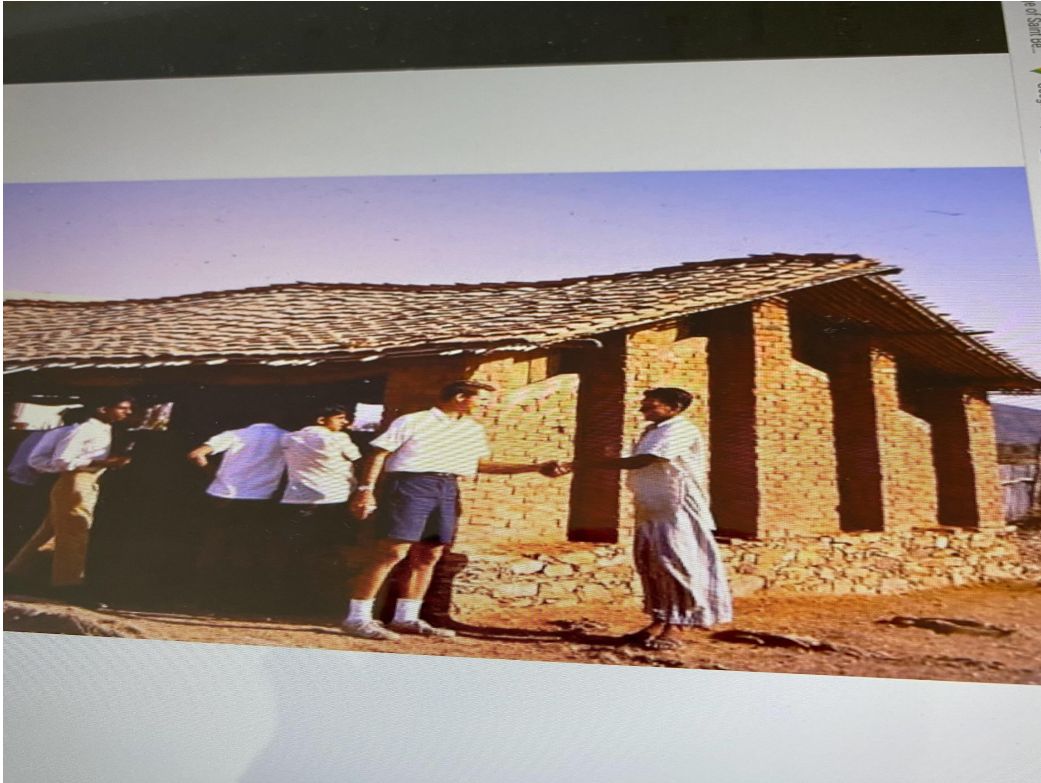
This involvement continued once DEA forwarded the indent to Peace Corps where staff members were required to prepare a comprehensive document (about 40 pages entitled PC/104) which articulated the justification for the program, outlined the project design and delineated the training requirements for the Volunteers. In the Southern Region this was a rigorous process and involved consultations with the technical departments, some Block Development extension officers, some village farmers, Panchayat members and others. In addition, the concerned department staff were substantially involved in the selection and assignment of volunteers to specific sites.

It is important to know that the development of poultry projects utilizing Peace Corps Volunteers from the mid-sixties onwards was a very collaborative process with the Indian host agencies, staff and organizations.

Eventually Peace Corps Volunteers joined with their host country counterparts to take the techniques of Modern Poultry Production to the farmers in the villages of Punjab, Himachal Pradesh, Mysore, Kerala, Madhya Pradesh, West Bengal, Andhra Pradesh, Bihar, Rajasthan, Uttar Pradesh and Gujarat.

The Peace Corps' training and technical assistance program enabled the Volunteers to help small and medium-scale farmers adopt improved poultry management practices, leading to an increase in egg production and quality. The impact of the men and women of the Peace Corps, and their Indian counterparts on laying the foundation for India's egg production industry is reflected today, as the country stands as one of the world's greatest producers of eggs, egg products and poultry meat.

THE CHALLENGE



PC Volunteer Marcus Van Hala and a farmer and his newly constructed chicken house (1967)

All this did not come easily. In the early 1960s India was facing a number of challenges, including malnutrition, and food shortages. Many village families kept a few local (“desi”) chickens that were essentially free range, and genetically had minimal egg production capacity, averaging 10-20 eggs per year and therefore not a significant source of protein for an Indian family. Additionally, many poor families would sell some of their few eggs in the local market or to a local shopkeeper, the eggs being one of the few sources of cash available to the average village family.

Also in the early 1960s, local and national health and nutrition authorities in India identified a "low level of protein" as one of the major nutritional deficiencies prevalent amongst the children of the village families. Symptoms such as extended bellies and rust colored hair, were noticeably prevalent and Village Development and Health authorities were seeking ways to infuse additional protein into the diets of the village families. Along with additional and improved foods such as groundnuts, beans, cereal grains and some root crops, they began to look to the wider availability of eggs as a source of needed protein. (Proper basic nutrition for children, 1-3 years old requires 12.5 grams per day of protein. Each egg provides half that amount. Children 4-6 years

require 16 grams per day and 7-9 year olds require 23 grams per day. So two eggs per day would meet the needs of a little child and meet an important portion of protein needs as the child grows older.

In the rural communities where many Peace Corps Volunteers were stationed, chickens were few in number and generally ran free, which was inexpensive but presented numerous problems. In their "free ranging" the chickens were exposed to a myriad of diseases that could affect the quality and quantity of eggs produced. Also the chickens were exposed to predators, (snakes, rodents, feral dogs), decreasing the lifespan of the chickens, and sometimes their ability to produce eggs. The quality and amount of food accessible to the foraging chickens was often substandard, contributing to the low egg production. The places where eggs were laid were often unclean and, in some cases, sufficiently scattered that eggs were often not recovered.

Finally, there was a lack of reliable financial information regarding costs, inventory and other economic factors, to the point that the production of eggs was not viewed as a significant source of food or revenue and therefore not a substantially valuable resource to the Indian farmer.

THE PLAN

In this milieu the Peace Corps, along with others, recognized that one way to address these challenges was to increase the production of high-quality protein sources, such as eggs. Additionally, the Departments of Animal Husbandry in some Indian states were beginning to consider methods of stimulating more intensive egg production and were open to the suggestions of some of the early PCVs:

A) Encouraging farmers to enclose their laying hens, thus removing the energy loss caused by extensive wandering as well as the loss from dislocation and predators;

B) Developing the means to provide the chickens with more nutritious and plentiful feed supplies needed to support enhanced egg production;

C) Assisting farmers to access funding and develop a profitable business model.

D) Developing packaging and marketing strategies for delivery of large numbers of eggs to urban centers and larger local markets.

The Peace Corps, with the help of the Government of India and international donor agencies USAID, CARE, and Canada's CIDA, established a number of programs to promote egg production. These programs focused on training farmers in modern egg production techniques, upgrading the genetic capacity of the chickens and

developing markets for eggs. The Peace Corps also worked with the Indian government to develop policies and programs that would support egg production.



Breeding Pullets

brought from Forsgate Farms to Central Hatchery, Chengannur, Kerala (1966-67)

THE PROGRAM

Between 1961 and 1976 approximately 200 Peace Corps Volunteers sent to India were trained for and involved in efforts to improve the egg and poultry economy in India. They eventually worked successfully in twelve states, though the initial efforts were modest.

Beginning in 1961, the Volunteers in the earliest groups, known as “India 1” and “India 2,” initiated the Modern Poultry Program in the states of Punjab and Himachal Pradesh. Their early efforts concentrated on encouraging the local farmers to enclose their chickens in coops and add high quality feed to their diets. The first poultry project operated out of the Punjab Agricultural College, and received USAID financial support in establishing a revolving fund permitting loans to farmers for purchasing imported hybrid chicks, developing improved feed supplies and protocols to support the increased production of eggs. The Volunteers, with the assistance of various India government resources, were also able to arrange for importation of improved breeding stock from Canada. In 1966 White Leghorns, White Cornish and White Plymouth Rock were hybrid breeds imported to Kerala from Forsgate Farms in New Jersey. This stock enabled state Departments of Animal Husbandry to begin propagating, with the expert guidance of Professor Andrew Marble of Cornell University, pilot projects in upgraded

poultry and egg production, conduct research on the poultry breeds best suited for the Indian environment and establish disease prevention protocols.

The modern poultry production training program was implemented in various regions of India, initially targeting small and medium-scale farmers. The Peace Corps Volunteers and their Indian counterparts taught the farmers how to construct poultry houses, feed and water the chickens, and monitor their health. They also taught them how to handle eggs to prevent breakages, extend freshness and properly transport the eggs to local markets.



Peace Corps Volunteer Harry Cheek and his Indian counterparts visiting an upgraded poultry building (1966)

Peace Corps/India Groups of Volunteers(Poultry)

From 1961 through 1964 Volunteers working on poultry development projects were part of groups of Volunteers who were involved in a variety of development projects (health care, nutrition training, small industries, bee keeping, cattle breeding etc). Beginning in 1964 the Peace Corps administration and state governments began developing groups of 20 plus Volunteers trained specifically for intensive poultry development. These included:

India 6: Mysore (Karnataka), Maharashtra; West Bengal

India 7: West Bengal

India 13; Kerala, Mysore(Karnataka) and Punjab

India 16: Maharashtra, Punjab, Madhya, Uttar and Andhra Pradesh, Bihar, West Bengal and Rajasthan

India 17: Kerala & Gujarat

India 26: Mysore

India 33: Kerala (transferred to Mysore in the second year) & Gujarat

India 36: Madhya Pradesh

India 55: Madhya Pradesh

India ? : Bihar

India 59: Mysore (Karnataka)

In addition to the poultry specific groups there were small numbers of poultry specialists included in about 20 other Peace Corps groups which had a range of Volunteer skill assignments. In total more than 200 Volunteers served specifically in Modern Intensive Poultry Development in the 15 years of the partnership between India and the Peace Corps. The Volunteers, while engaged in a variety of poultry development activities (demonstration projects, pilot breeding programs, feed formulae development, vaccination programs, packaging, shipping and marketing), the major initial contribution was the launching and nurturing with village farmers and agriculture institutions more than a thousand demonstration projects (usually consisting of 100 to 1,000 laying hens) across ten states

A critical element in this farmer assistance program was establishing careful cost analysis and financial documentation. This enabled farmers and their families to determine the cost effectiveness of an improved poultry production practices and to demonstrate to their family, neighbors and other farmers that the effort was paying off financially. The latter point is an absolutely essential element for taking an improved agriculture program beyond the pilot/demonstration phase and scaling it up to benefit a larger participating community.

After a slow start with a variety of pilot projects, the training program gained momentum in the second and subsequent years with increasing numbers of farmers reporting a significant increase in egg production. The farmers also learned how to market their eggs effectively, leading to increased profitability. The Peace Corps “experts” also collaborated with the Indian government to establish a national poultry extension program, which provided additional training and support to poultry farmers throughout the country.

THE VOLUNTEERS

Below are examples of the nearly two hundred American Peace Corps Volunteers who served in India Poultry Development Programs.

Roger Engstrom, was a member of India I. He described his experience of arriving in 1961 to help initiate the egg production project in Punjab:

“Justin McLoughlin and I lived next to the Punjab Agriculture College. Justin worked with the college poultry unit along with Dr. Paul Clayton, a technical advisor from Ohio State University. As an incentive for farmers to join in initiating demonstration Poultry Production projects, they established a revolving fund along with technical assistance support. The participating farmer was required to construct a shed according to a prescribed design and agree to provide day to day operations. While several farmers agreed and dates for delivery of day-old chicks were scheduled.”

“However the farmers made no effort to construct the required sheds, rather the farmers said bring the chicks and we will put them under a basket (the traditional method). Deadlines passed and no construction and no chick delivery. Justin was steadfast. Finally one farmer agreed and we helped him construct the shed. His cost was approximately 300 Rupees, equivalent to about \$70. We brought rice hulls for the floor, feed and feeders, waterers and a notebook. The notebook was the accounting ledger. Health and death loss was recorded. Others in the village insisted the farmer was stupid. When the roosters were ready to butcher we took them to market and recorded the sale

proceeds in the notebook. The notebook was scrutinized by everyone and yet many villagers insisted the farmer was only working for the Americans and would never see any money”.

“The surviving hens produced eggs which we also took to market further enforcing the villager fears. Eventually the ledger balanced and the farmer started to receive some money. The revolving fund allowed others to enter. Very soon after the profits went to the farmer, I had people from those villages at my door on the other side of Ludhiana begging to get in the program. Under my breath I said, ‘Where were you last year?’”

“Once the original farmer began to realize the profits the program scaled up quickly. Indian farmers were eager to try this new technique that would turn a substantial profit for them.”

Most of the Peace Corps Volunteers who worked on Modern Egg and Poultry Production came with a limited background in that field. However they received intensive and effective training from a variety of both Indian and American agencies and personnel, including Paul Clayton (Ohio State University) and Will Newton, a retired Extension Officer on the faculty of the University of California.

Jack Slattery, a 23 year old Boston-raised graduate of Brandeis University with a degree in Psychology, received his introduction to Modern Poultry Production during his training with India III at the University of Minnesota. Upon arrival at his assigned site, the Gramsevak Training Centre in Gangavathi, Raichur District of Mysore, he took to the poultry assignment like a “duck to water”. In partnership with the GTC Principal, N.B. Hiremath they inserted a poultry program into the training curriculum for the future Gramsevaks, created an on-campus brooding house for baby chicks with the trainees attending to the care of the pilot batches, visited repeatedly with a group of eight farmers in the nearby village of Odderhatti convincing them to organize a poultry production cooperative, jointly construct a two hundred hen enclosed chicken house and arranged for the delivery of hybrid chicks, a good quality feed supply and the daily management of the flock.

When the two hundred chickens began producing 150 plus eggs per day Jack and the co-op members had to turn to marketing. While there was demand for a few dozen eggs daily within the village and its nearby neighbors, and the weekly market day in Gangavathi (which drew 20,000 shoppers) could absorb much of the remaining inventory of nearly a thousand eggs per week, it was clear that in the future as the co-op expanded and other farmers began additional intensive egg production, better marketing systems needed to be established. Jack slattery turned

his attention to the marketing challenges by;

- a) Designing a locally sustainable packing container (5 gallon oil cans filled with rice husks) which could safely convey six dozen eggs for the shipping to the larger markets at the District Headquarters cities of Raichur and Bellary.
- b) Assisting the cooperative members to negotiate with the bus companies agreements and fees for transporting the egg containers on their regular routes to those cities.
- c) Meeting with merchants in Raichur and Bellary to arrange for their obtaining the consigned containers from the bus station, marketing the eggs in their stalls and transmitting payments to the cooperative.

Jack Slattery was not, and did not claim to be, a “poultry expert”. He relied on the Mysore Animal Husbandry Extension Department at Hebbal University in Bangalore, for the esoteric expertise on feed combinations, chicken vaccinations etc. He didn’t particularly like chickens—but he was determined to help the farmers develop this nutrition and income generating format to improve the lives of the people in Odderhatti and nearby villages. In his three years of service Jack and N.B. Hiremath made Modern Poultry Production a viable additional income industry in numerous villages in Gangavathi Taluka. To solidify this effort Jack enlisted several Gramsevak trainees to assist him in printing in the Kannada language, an illustrated manual to guide farmers in the techniques of Intensive Poultry Production, which the Department of Agriculture distributed throughout the state of Mysore.

Omar Hendrix and his colleague, **Lenny Kata**, trained with India 6 (1964-66) at the University of California, Davis and were stationed in Kolhapur, Maharashtra. In **Omar’s** own words:

“In visiting the villages we found some interest in possible poultry cooperatives but found there was little money to invest. However in the mid-size city of Sholapur people had money to invest, and an Israeli firm, Arbor Acres, had started a hatchery at Pune, (8 hours north by train), so it was possible to access hybrid chicks. I remember riding third class, holding the first box of a hundred chicks on my lap, which caused quite a stir amongst the other passengers. The chicks ended up in a shed behind a farmer’s house, with ground up peanut shells for litter.”

With a real poultry operation to show off, Lenny and I got a lot of attention from other potential poultry farmer candidates and before long there were eight or ten poultry projects in the town and nearby villages which made it necessary to focus on marketing of the eggs. The farmers formed a cooperative which led to more interested folks coming forward. The decision was made to open an

egg store in the business section of Kolhapur, announcing its opening with a marching band and speeches. Even though we advertised “Vegetarian Eggs”, customers were scarce. People were not used to eating a lot of eggs, vegetarian or not. Something had to be done!

It was decided to send the eggs to Mumbai and Lenny went ahead to find an egg merchant in Crawford Market and later to open a store called “Dosti Eggs” in the upscale Malabar area of Mumbai. The first shipment was packed in woven baskets with a lot of straw packing. I arranged to get them on top of a lorry headed to Mumbai. To ensure they got to their destination, I rode on top of the lorry escorting the basket all the way to Mumbai. Before long, eggs produced by farmers in other Peace Corps Volunteer sites became available and joined our market effort in Mumbai. This prompted the founding of “DOSTI EGGS!” (Editor’s note: The Dosti Egg store in an expanded version remained a successful store in Malabar for the following three decades and was a leader in fostering the popularity of egg consumption in urban India)

Helen Clarke & Roger Engstrom played key roles in beginning to popularize the consumption of grilled chicken meat with demonstration barbecue stations (receiving rave reviews), at various festivals, community events and fairs. Thus launching another revenue source for poultry farmers, the sale of male chickens to the commercial meat markets.

The work of the Volunteers involved not only hands-on labor in working with the poultry and farmers, but negotiating with government entities, arranging for financing, planning, recording results for future efforts and marketing.

Tondalaya Gillespie (India 16) in her own words:

*“Peace Corps training prepared us well for India and working in poultry. I and **Valerie Eves** were assigned to Sholapur, Maharashtra to replace **Mike Feder, Steve Stroud** and **Jerry Dambro** (of India VI) who along with Sri Mahadev Jadau, MP, had recently formed the Sholapur Egg Society.”*

“Our work was initially to assist the Society market the large volume of eggs being produced, a frenzied effort which got the Society contracts with The Dosti Egg Store in Mumbai, Indian Railways, the various bus stands, local desai tea shops and schools. It was a battle to keep the contracts fulfilled due to sales to other parties for weddings, pujas and other one time events. The hot season when egg consumption slumped (eggs were considered a hot food only) was difficult. That said, the Sholapur Coop survived and the crown jewel was the landing of a contract with the Taj Mahal Hotel in Mumbai”

“We also did the usual disease analysis, convincing farmers to debeak, designing chicken houses, securing grain, ordering chicks (ArborAcres being the big supplier), helping farmers get loans and plugging the concept that an unfertilized egg is vegetarian”



Sholapur Egg Cooperative Society members on day of departure of India 6 Volunteers and the welcoming of India 16 Volunteers (1966)

Kenneth M. French, a member of India 33, spent three years working on poultry farming in the states of Kerala and Mysore. He eventually published the 225 page manual *Practical Poultry Raising*. Two members of India 7, **Omar Hendrix** and **Lenny Kata**, established the Dosti Egg Store in Mumbai to model egg marketing on a large scale in an urban setting. The store was later expanded upon by **David Merritt** and **Dennis Harrington**, Volunteers with India.....

In the mid-1960's Peace Corps Volunteers **Tom Carter** (India 13, Kerala), **George Nepert** (India 26, Karnataka) and **Wally Tyner** (India 33, Karnataka) were key managers in the expansion of the modern poultry program, as was **John Wahl** (India 59, Karnataka) who in the early 1970's designed and manufactured the first

cages for the efficient housing and care of laying hens .

Jim Nelson (India 8, Udaipur) was hired by Arbor Acres corporation after his service in India and eventually rose to the presidency of that corporation which played such an important role in the subsequent expansion of the poultry industry throughout India..

In 1965, a group of newly arrived Peace Corps Volunteers (India 13) began work with the Animal Husbandry Department Counterparts, especially with Dr. P.K. Nanbiar in Kerala to launch a major effort in Modern Poultry Production. Joining with the Kerala counterparts the program spread quickly within the Malayalee farming communities so successfully that the efforts of the Peace Corps Volunteers were much appreciated by the farmers and local political leaders. The popularity and value of the poultry operation there is evidenced by the fact that when a newly elected State Legislature led by the Communist Party, made a cabinet decision to order the removal of the Peace Corps people, the Kerala State Poultry Growers Association objected, lobbied the government, and was able to effect a delay and eventually a cancellation of the expulsion order. A similar event occurred in 1973 when the Government of India decided to bring to conclusion its relationship with the Peace Corps. In Punjab the poultry farmers were able to arrange a delay until the Volunteers completed their service. The last Peace Corps Volunteer working in poultry development departed Punjab and India in September of 1976.

THE LESSONS

The experience of the Peace Corps in partnering with Indian farmers, and Indian government Agriculture Extension experts, in promoting poultry production in India provides several important lessons. First, it highlights the importance of focusing on local needs and conditions when designing development programs. The Peace Corps, taking its lead from local officials and farmers, recognized that increasing egg production was a means of addressing some of the challenges facing the Indian people, and it focused its efforts accordingly.

Second, the experience of the Peace Corps shows the importance of partnerships in promoting development. The Peace Corps Volunteers worked closely with local farmers, government officials, and other stakeholders to develop programs that were effective and sustainable.

Finally, the experience of the Peace Corps personnel and their Indian counterparts in promoting egg production in India shows the potential for small-scale interventions to be taken to scale and eventually make a significant impact on a country's agricultural and food development. By focusing on a program and product sustainable in the Indian setting and with substantial development potential, the Peace Corps as an organization and the two hundred or so Volunteers it provided to local Animal Husbandry agencies and poultry grower's associations were able to make a significant contribution to improving the lives of millions of people in India.

Egg production has many advantages. The startup costs are modest and a profit can result from a relatively small area. The water resources needed are low. The product itself is an efficient means of delivering nutrition at a relatively low cost.

AND NOW!

Egg and poultry meat production in India has flourished, due in no small part to the early efforts of a few determined Indian Extension officers and the Peace Corps Volunteers working with them.

Once the modern poultry and egg production program had gone to scale and was, by the mid-1970's, fully launched a number of factors contributed to a dramatic growth of the modern poultry and egg industry in India. Once again, "the stars seemed to be in their courses".

-The expanding population and the increased awareness that eggs produced under modern poultry practices were vegetarian, contributed to a substantial consumer demand and market for eggs and poultry meat.

-Many Indian farmers were entrepreneurial and responded to the opportunity for profits. While Modern Poultry and Egg Production proved very profitable for the largest farmers, even for the smaller farm families the daily income from eggs proved advantageous.

-The extensive introduction of hybrid wheat, paddy rice and sorghum (jowar) made the availability and price of the cereal grain components of poultry feed affordable.

-The Government of India and many states encouraged the rapidly developing poultry industry through the Agriculture Extension programs launched in conjunction with USAID Participant Training Program and American agriculture universities, providing research, technical manuals, genetic improvements and importation of breeding stock.

-The commercial feed and pharmaceutical companies quickly developed products in support of the expanding Modern Poultry Production industry, providing feed supplements, medicine and vaccination supplies.

-Climatic conditions and proximity to urban markets enabled rapid expansion on a commercial scale of the Modern Poultry Production near Bangalore, Hyderabad, Pune, Sholapur, Punjab, Rajasthan, Andhra Pradesh, West Bengal and Tamilnadu.

-Expansion of electrical and refrigeration capacity made it possible for farmers to hold in cold storage several days' egg production making their marketing more efficient and for retail merchants to purchase a multi-day inventory. Even the small shopkeeper in a Taluka town could purchase 4-5 dozen eggs and store them in a small refrigerator until they were sold over the next several days.

-Traditionally in the non-vegetarian markets and food establishments, the meat of choice was mutton. As the population grew and demand for mutton outstripped production, mutton became ever more expensive. The Modern Poultry Practice of isolating male baby chicks and raising them separately for the meat market has resulted in the price of chicken meat being substantially lower than mutton, thus filling a gap in the market and creating an opportunity for the farmer to benefit from the sale of chickens for their meat.

-Finally, amongst the growing legions of egg and poultry producers there existed people with the vision to create key infrastructures such as farmer's production and marketing co-operatives and State-wide Poultry Growers' Associations. A prime example is the leadership of Mr. BV Rao in launching the NEEC (National Egg Coordination Committee) which pushed for the expansion of markets, favorable policies and improved techniques of shipping and storage.

All these factors and more contributed to the dramatic expansion of egg and poultry meat production throughout the country. Today eggs and chicken meat are widely consumed sources of protein.. In many ways the egg is an ideal product for India, especially for rural India. It is a product that can be marketed immediately after being produced. It has its own protective shell and so does not require extensive wasteful packaging. It is rich in protein, vitamins and minerals. It is accepted socio-culturally by the three major religions.

India is currently the third largest producer of eggs in the world and is expected to increase its capacity by 30 percent over the next five years. Poultry is considered to be the fastest growing element of the Indian agricultural sector. While many of the eggs are produced today on large commercial farms, it is estimated that thirty million

farmers have smaller “backyard” farms that produce eggs for local markets.

The efforts of the American Peace Corps to help launch and promote Modern Poultry Production during the 1960s and ‘70s had a significant impact on the country. By focusing on local needs and conditions, working in partnership with local stakeholders, and focusing on a single product, the Peace Corps Volunteers were able, in conjunction with their Indian colleagues, to make a significant contribution to the economic and social development of that great nation.

Modern Poultry and Egg production, a fledgling idea and program in 1961 has blossomed into an annual \$2.5 Billion industry ([Economic Times 3/16/23](#)) and is projected by Market Analysis forecasters to increase another 30% in the coming five years. Eggs and chicken products are now widely marketed in nearly all grocery stores and food outlets.

The lessons learned from this experience can be applied to other development programs around the world, highlighting the potential for small-scale interventions which once proven can be scaled up to have a large impact on development.

The Government and people of India can indeed be proud of their “accidental yet fortuitous partnership” with the hundreds of American Peace Corps Volunteers they hosted. Together they inaugurated, piloted and developed the foundation of an immense food industry that mirrors and contributes to dramatic economic progress of the Indian nation over the past 50 years.

Jaya Hind

