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Beyond the Traditional Cooperative

A Farmer-Owned Production and Market Architecture for Smallholder Prosperity

Agricultural development is often presented as a choice between the cooperative and the corporation. Smallholders need a third structure: one that preserves individual ownership and accountability while providing professional production management, machinery services, risk protection, processing and collective market power.

PQNK provides the production system. The proposed Crop Production Management Company provides the institutional structure through which smallholders can implement it.

1. The Central Problem of Collective Ownership

In 1980, I visited Yugoslavia specifically to study its cooperative system while Marshal Tito was still leading the country. Despite strong state support, I found that the system was not functioning particularly well.

The fundamental weakness was accountability. People generally care for an asset they personally own more diligently than one owned collectively. Common machinery may be used by everyone, but responsibility for maintaining, repairing and eventually replacing it is often accepted by no one.

Pakistan encountered a similar problem when agricultural cooperatives were promoted during the 1970s. In addition to weak responsibility for common assets, larger farmers frequently gained control of cooperative societies. Smallholders, for whose benefit these organisations were supposedly established, received little benefit, if any.

The failure was not caused by cooperation itself. It resulted from an unsuitable division of ownership, responsibility and power.

2. A Better Machinery Service Model

A different arrangement was subsequently tested. Members of a farming society pooled funds to purchase a tractor, planter or harvester, but one member assumed ownership and full responsibility for the machine.

The owner operated, maintained and eventually replaced the equipment while providing services to the other members. Rental payments recovered the value of the asset, while the owner retained the operating cost and a reasonable return. This arrangement performed better because ownership, operational responsibility and accountability for replacement remained together.

Later, with the assistance of the Agricultural Development Bank of Pakistan, now ZTBL, agro-machinery rental services were expanded by financing combine harvesters for individuals and companies. The service model fulfilled its agricultural purpose, although the bank experienced difficulty recovering some loans.

The lesson is clear. Pakistan should train competent rural entrepreneurs and finance them to own, maintain and operate agricultural machinery as a service. Expensive machinery should not be placed under loosely defined collective ownership.

This model has already demonstrated its practicality. Laser land levellers, initially introduced through organised programmes, are now widely available through private service providers. Similar arrangements operate for tractors, threshers, rotavators, combine harvesters, haulage trolleys and other farm machinery.

A smallholder does not need to own every machine. The smallholder needs timely and affordable access to the correct machine, maintained properly and operated by a trained person.

Under PQNK, this requirement becomes even more important. Permanent raised beds, controlled traffic, precision seed placement and protection of the soil architecture require properly designed machinery and skilled operators. The Production Manager must understand the system, while the machinery entrepreneur must deliver the required operation without damaging the field.

3. Land Reform, Ownership and Farmer Engagement

The different agricultural histories of India and Pakistan offer another important lesson.

Land reforms introduced in India from the early 1950s attempted to weaken feudal control and imposed ceilings on agricultural holdings. These limits varied by state and according to land quality. In some categories of irrigated land, the permissible family holding was approximately 12.5 acres.

Smaller holdings compelled owners and their families to become directly involved in farming because the land had to support the household. This engagement encouraged closer supervision, greater familiarity with crops and more careful management of available resources. A significant part of India's agricultural development was driven by owner-operators who remained physically and intellectually connected with their farms.

Pakistan did not experience land reform with the same reach or effectiveness. Agricultural land remained concentrated in many areas and continued to pass through inheritance. Owners frequently depended upon farm workers supervised by a munshi, who was normally an untrained farm manager.

This created a serious separation between ownership and production. Pakistan has many agricultural landowners, but comparatively fewer people who are personally engaged as knowledgeable, hands-on farmers. Decisions affecting the soil, water, crop and machinery are often delegated to workers without adequate scientific or technical training.

India's experience also demonstrates that personal engagement alone is insufficient. Subsidised agrochemicals, electricity and irrigation water eventually encouraged excessive fertiliser, pesticide and water use in many intensively cultivated regions. In several areas, this dependency has damaged soil structure, biological activity, groundwater and long-term productivity, sometimes more visibly than in comparable parts of Pakistan.

The lesson is not simply that farms should be small. The owner must be engaged, and that engagement must be guided by an understanding of the living production system. PQNK requires the landowner or responsible operator to become a trained Production Manager, not merely an investor, absentee owner or purchaser of inputs.

4. Price Reform and the Missing Farmer Institutions

A major opportunity emerged in Pakistan during 1994–95, when the Agricultural Prices Commission was abolished and agricultural prices were linked more closely with international markets.

Produce prices increased substantially. Production costs remained largely local, while market prices reflected international values. This created the potential for agriculture to become an engine of rural prosperity.

Price reform alone was insufficient. Farmers also required knowledge, machinery, production planning and organised access to markets. We therefore proposed Farmers' Facilitation Centres to:

- educate and train farmers;
- provide technical and production guidance;
- arrange machinery on rent;
- connect farmers with specialised services;
- develop marketing channels; and
- improve access to market information.

This was also when the principle of “sell before you produce” came under consideration. Farmers normally produce first and search for a buyer after harvest, when the crop may be perishable, debts are due and bargaining power is weakest. The proposed alternative was to identify demand, buyer, quality, quantity and indicative price before committing land and resources to production.

A Commodity Exchange was therefore planned as a mechanism through which farmers could understand demand, secure buyers and manage price risk before planting. A change of government prevented both the Farmers' Facilitation Centres and the Commodity Exchange initiative from materialising. The institutional gap they were intended to fill remains largely unresolved.

5. What Successful Cooperatives Actually Do

The most mature farmer cooperatives are not necessarily those that place all productive assets under common ownership.

During visits to Scandinavia, I observed that successful Swedish farmer cooperatives generally concentrated on collecting produce, processing it, adding value and marketing it. Individual farmers retained responsibility for their land and production, while the cooperative created scale after harvest.

Amul in India represents a comparable producer-owned model. Milk producers retain their animals and production responsibility. Their organisation aggregates the milk, maintains quality systems, processes it into higher-value products and markets those products through a powerful common brand.

Production requires personal responsibility. Processing and marketing benefit from collective scale.

The principle can be applied to food crops, but it must be adapted to the realities of crop production. Unlike daily milk collection, PQNK crop production requires field conversion, technical knowledge, precision machinery, biological understanding and management over an entire production cycle. The first challenge is therefore not selling the produce. It is producing it correctly and consistently.

6. The Unmanaged Risk of the Smallholder

Smallholders have very limited capacity to absorb failure. One unsuccessful crop, machinery breakdown, extreme weather event, pest outbreak or marketing disruption can destroy years of savings and force the farmer into debt.

Any programme asking a smallholder to adopt a new production system must therefore address risk directly. Training alone is insufficient. Machinery alone is insufficient. Credit alone may increase vulnerability if the production and marketing systems remain weak.

The farmer needs an integrated structure providing correct field planning, trained Production Managers, precision machinery services, implementation supervision, transitional finance, crop-risk protection, production records, pre-production market planning and assured channels for aggregation, processing and sale.

7. The Crop Production Management Company

During farmer training in May 2026, I proposed the incorporation of a Crop Production Management Company, or CPMC, owned entirely by participating farmers.

The CPMC was not conceived as a traditional cooperative holding machinery that everyone uses but no one adequately maintains. Nor was it designed as an outside corporation taking control of farmers' land. It was conceived as a professionally managed, farmer-owned production institution.

Each farmer would retain ownership and control of the land. Machinery would be supplied through accountable service entrepreneurs or specialised operating divisions. Professional Production Managers would organise and supervise implementation. The company would aggregate produce, manage quality, develop processing and marketing channels, and negotiate from a position of scale.

CPMC function	Responsibility
Farm development	Assess each field, design its PQNK conversion and arrange the required one-time operations.
Production management	Provide trained Production Managers, crop planning, operating protocols and field supervision.
Machinery access	Contract qualified entrepreneurs for subsoiling, permanent-bed formation, precision planting, mulching and harvesting.
Risk management	Establish transitional safeguards, contingency reserves and appropriate crop-risk arrangements.
Aggregation and value addition	Combine produce without combining land ownership, enabling grading, storage, processing, branding and nutrition-based value addition.
Pre-production marketing	Apply “sell before you produce” by identifying demand and developing buyer relationships before planting.

The proposal was pursued, but the initiative was paused because sufficient farmer interest and commitment did not develop at that stage. Nevertheless, the underlying need has not disappeared. In my considered opinion, the CPMC remains the most practical institutional solution for economically liberating smallholders.

8. The PQNK Institutional Model

The appropriate structure is neither complete individual isolation nor uncontrolled collective ownership. It combines responsibility at the level where responsibility works best.

The structure should combine secure individual land ownership, direct involvement of the owner or accountable Production Manager, professional PQNK training, individually owned machinery-service enterprises, trained operators, affordable implementation finance, transitional

production-risk protection, transparent production records, pre-production marketing, farmer-owned value addition and collective bargaining without surrendering individual land.

Participant	Primary accountability
Farmer	Owns and controls the land.
Production Manager	Is accountable for the crop and the correct application of PQNK.
Machinery entrepreneur	Owns, maintains and replaces the machine.
Trained operator	Performs each field operation precisely without damaging the soil architecture.
Farmer-owned CPMC	Organises production, manages risk, aggregates produce, adds value and develops markets.

9. Conclusion

Smallholders will not be protected merely by opposing corporate farming, nor will they prosper by repeating traditional cooperative structures that have already failed them. They require a system that joins ownership with responsibility and cooperation with professional management.

PQNK restores the natural production system. Machinery-service entrepreneurs make precision implementation accessible. The CPMC provides the management, risk protection, aggregation, processing and market power that individual smallholders cannot create alone.

Individual ownership and accountability should drive land management, production and machinery services. Farmer-owned collective strength should provide professional management, risk protection, processing, value addition and market power.

This preserves the farmer's land and independence while providing the knowledge, machinery, protection and commercial strength required for genuine prosperity. It is not a cooperative in the conventional sense, and it is not corporate farming imposed from outside. It is a professionally managed production and market system owned by the farmers themselves.

Sources and Evidence Basis

Author's first-hand observations: cooperative systems in Yugoslavia (1980) and Scandinavia; agricultural cooperatives, machinery-service and price-reform experience in Pakistan; PQNK farmer training (May 2026).

Zarai Taraqati Bank Limited (ZTBL), formerly the Agricultural Development Bank of Pakistan: agro-machinery finance.

Gujarat Cooperative Milk Marketing Federation (Amul): producer-owned dairy aggregation, processing and marketing model.

PQNK field framework and governing principles: Pedaver / PQNK knowledge system.