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INDO-ISRAELI INITIATIVE FOR THE DEVELOPMENT OF RURAL SECTOR IN INDIA

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Abstract: The development of rural India will, in all likelihood, be one of largest and most significant undertakings this century. Given the democratic nature of governance in the country and the decisive influence of the rural voter on electoral outcomes, such development is a political imperative that entails vast economic opportunity – for both the domestic business sector and for foreign partners who have the foresight to participate, in and contribute to, this mammoth enterprise. Long-term, sustainable development cannot be limited to enhancement of production performance per se. It requires a holistic approach, addressing the entire complex of rural activity – from pre-harvest preparation to post-harvest processing; from agro-logistics to the creation of non-farming employment and income. Israel, as an acknowledged world leader in many of the relevant competencies required for a comprehensive upgrading of rural India, is uniquely equipped with both the innovative expertise and the accumulated experience to be a major partner in such an initiative. A five stage "roadmap" for implementation of an Indo-Israeli collaborative venture for the advancement of rural India is set out.

I shall now take up our main challenge: agriculture. I may recall the words of Jawaharlal Nehru, who said "Everything else can wait, but not agriculture."

India's Minister of Finance, Palaniappan Chidambaram in his February 28, 2007, Budget speech.

The Manmohan Singh government cannot afford to ... let rural India languish. The best strategy it can embrace is one where farmers' needs dictate innovative solutions from the bottom up and where social entrepreneurship can flourish along –with an increasingly empowered and prosperous rural population.

"India Cannot Afford Rural Failure" - Mira Kamdar in YaleGlobal On-Line, April 20, 2007

These two excerpts aptly articulate a reality and a need – and awareness of that reality and need – which create an enormous opportunity for expanding and deepening Indo-Israeli co-operation and for creating the potential for huge benefits for both countries that extend far beyond the realm of short-term commercial benefits. Indeed, if judiciously developed with appropriate insight, vision and appreciation of the possibilities, this could well blossom into a collaborative enterprise of strategic dimensions.

Rural India: The Strategic Challenge

There is a growing consensus across a wide cross-section of decision-makers in India that the country's most pressing long-term strategic problem is neither its relationship with China nor the tension with Pakistan but the income of the small farmer. As one well-known authority on India (Kamdar, 2007) pointed out:

Agriculture represents much more to India than a mere slice of economic pie – it is the very lifeblood of the country, the source of livelihood for 115 million farming families and 70 per cent of the country's population, the base upon which the entire edifice of the nation rises.

However, it is no secret that India's agricultural sector, which accounts for about 70 per cent of country's population, has been underperforming badly – particularly in relation to the other booming sectors of the national economy. Indeed, according to the International Herald Tribune (IHT) it has become “the bane of the Indian economy.” As the IHT article (28/2/2007) points out, there are:

One hundred and fifteen million farming families, dispersed among more than 600,000 villages, whom growth has left behind. They are unable to increase their yields at the pace at which urban consumption is growing, causing prices to rise. The farm sector, which employs two-thirds of the country but accounts for just one-fifth of the economy, has grown at slightly more than two per cent a year for the past several years. That is a far cry from the 9.2 per cent growth projected for the broader economy in the fiscal year ending March 31.

There are several reasons for this predicament, both social and structural. One of the major problems is the small size of Indian farms, with almost 70 per cent of farmers having holdings of less than two hectares and some as small as half an acre. Moreover, the situation is exacerbated by the fact that over time, even these inadequately sized units become smaller and smaller- and therefore less and less competitive – because of continual subdivision due to inheritances. Indeed, a report by the Earth Policy Institute (Larsen, 2003) pointed out that:

As land holdings are divided for inheritance with each succeeding generation, the 48 million farms that averaged 2.7 hectares each in 1960 were split into 105 million farms half that size in 1990... The average Indian family... will be hard pressed to pass on viable parcels of land to future generations

This is a situation that generates serious economic problems for the Indian government which permeate throughout the entire economic and social fabric of

the nation. The previously cited Yale Global On-Line source (Kamdar, 2007) notes that:

While farmers struggle, agricultural production cannot meet demand. Rising food prices are fueling inflation, causing real suffering among the 850 million Indians who struggle to live on less than \$2 per day.

It goes to warn with somewhat ominous tones:

The government's challenge is to implement policies that promote growth but also provide relief to India's stressed small-scale farmers, or else the country will have to reckon with much more than a missed growth target.[Emphasis added – MS]

On the one hand, these are circumstances that clearly represent a looming socio-economic crisis of grave dimensions for the Indian government. But on the other hand, they equally clearly represent an opportunity of massive proportions – not only for economic gain but also for social development and for the promotion of strategic political goals – in both domestic and foreign policy, in both India and in Israel.

Rural India: The Opportunity

It would not be an implausible exaggeration to assert that, if addressed with a prudent mix of resolve and intelligence, of political will and intellectual force, the development of India's rural sector could be one of the most momentous undertakings of this century – with unprecedented spin-offs for those involved with it.

Devising ways to increase the income of the small farmer in India, as well as providing him with alternative and/or additional rural-based sources of livelihood, are essential in facilitating the orderly transformation of Indian agriculture to more modern and competitively viable configurations. The inevitable quest to identify and implement such means of transformation can, and in all likelihood will, open up vast areas for Indo-Israeli collaboration, in areas in which Israeli expertise and experience can be of special pertinence and value.

In this regard it should be noted that Israeli agricultural expertise and know-how are among the most advanced in the world. This is true for a wide range activities embracing:

- Aquiculture (including advanced hatchery techniques for fingerling production),
- Dairy farming (where the yield of Israeli cows far outstrip that of the rest of the world – including the USA and EU)¹,
- Horticulture and floriculture (where Israel greenhouse/hothouse technology has won international acclaim),

- Fruit growing (where Israeli performance is among the best in the world for certain items such as avocados and grapes), and
- Irrigation techniques and water management (where Israel is an acknowledged world leader).

Accordingly, the contribution Israel can make toward advancing Indian agriculture, both by enhancing existing activities and by introducing a new ones is considerable.

Indeed, there seems to be a growing awareness in India for the potential contribution Israel can have for its agro-sector. This is reflected in the fact that India has consistently sent the largest delegation to the triennial Agro-technology exhibition, considered to be the leading international exhibition of Israel and the one of largest agro-technology exhibitions in the world.

A Holistic Approach Needed: However, while agriculture is clearly the essential point of departure for any initiative aimed at the enhancement of the socio-economic realities in the rural sector, efforts cannot be limited to merely improving yields and upgrading techniques of cultivation.

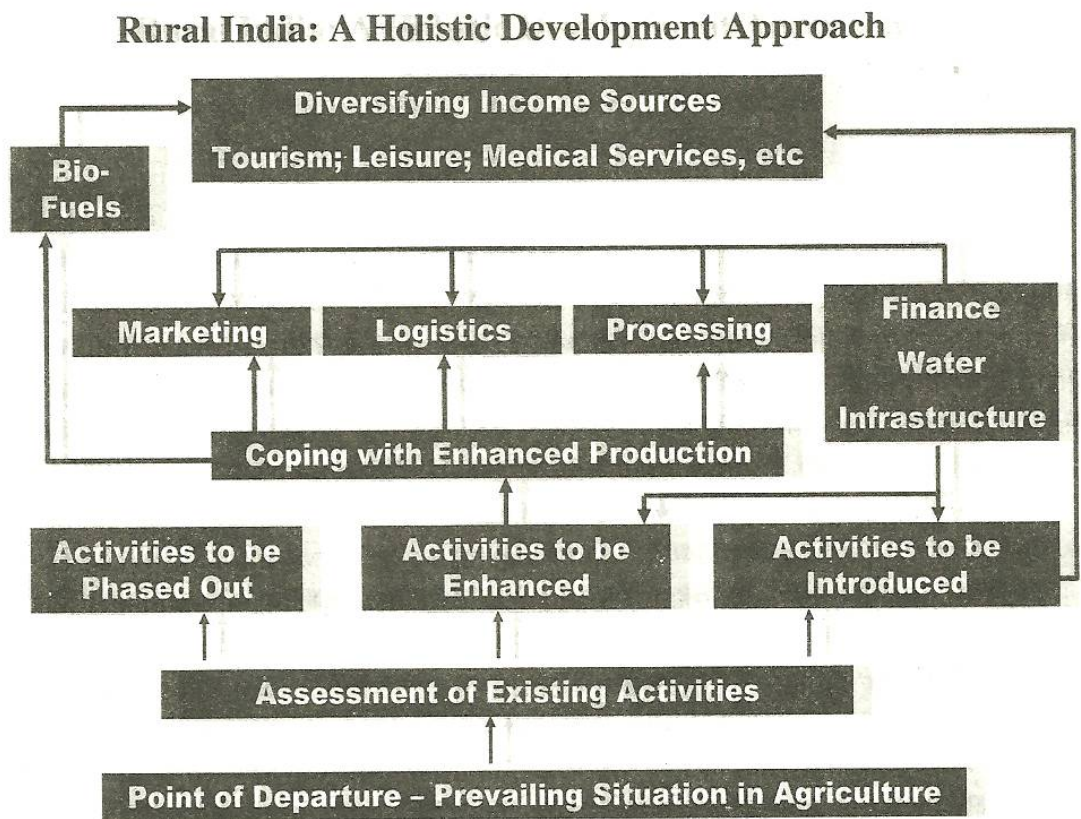
If the benefits of more efficient and productive agriculture are to translate into sustainable enhancement of the lives of the residents of rural India, an integrative systemic approach is essential which addresses both pre- and post-harvest activities. This will entail developing the means for marketing the increased agricultural output, the logistic systems to transport it from the farmer's field to the consumer's kitchen, via appropriate storage, refrigeration and packaging facilities.

It will also require development of various processing industries to make produce more durable and the means of consuming it as more diverse. In this regard it should be pointed out that the Indian retail sector is undergoing a rapid revolution, with supermarket chains (including well-known international names) establishing themselves throughout the country and vying for the Indian household's budget. This too will have a far-reaching impact, not only on patterns of consumerism, but on Indian agriculture as well, creating serious challenges for existing agro-structures, and opening up opportunities to apply more advanced techniques of control – such as computerized systems of the kind developed and operated in Israel – to address the more stringent requirements of quality, reliability of supply and consistency of produce.

All of this will put increasing demands on the rural infrastructure systems – such as roads, rail and communication systems - which will have to be upgraded to adequately accommodate the changing needs of the rural sector. Another area of crucial importance, and one in which Israeli companies could make considerable contribution, is that of water management – again across a wide range of activities, from irrigation to conveyance and conservation, to sewage recycling and the exploitation of marginal waters.

In addition, despite some criticism that it is reducing the availability, and increasing the cost, of food, the bio-fuel industry – including the cultivation of crops for raw material as well as the establishment of fuel production plants – is likely to become a growing part of India’s rural sector in the coming decades. For example, in some areas of India, ethanol production is being proposed to generate demand that will facilitate transfer from rice cultivation to other crops such as maize in order to prevent depletion of groundwater and reduce energy consumption required for irrigation.

Figure: 1



In such a holistic context, Israel’s potential contribution could be significant. For the country is not only a world leader in techniques and technologies for upgrading the performance of agricultural production and cultivation per se but also in other related pre-and post-harvest industries. Indeed, Israel’s proven expertise and experience spans a highly varied range of rural related activities. On the pre-harvest side, these include the production of agricultural inputs (such as fertilizers and irrigation equipment), and provision of expertise in fields such as soil conservation and water management. In terms of post-harvest operations Israel has developed impressive capabilities in fields such as agro-logistics, storage, packaging, development of rural infrastructures, rural

medical services, and branding and marketing of agricultural produce (for both domestic and export markets).

Development of Non-Farm Income Sources: However, rural development cannot hinge on the enhancement of agriculture and its derivative activities alone. In fact, as a general trend, when levels of agricultural productivity rise, so the levels of agricultural employment fall – creating potential for social unrest and the increase of the urban migration into India’s already overcrowded cities. As a report entitled “Economic Policies for Augmenting Rural Employment in India” and submitted the Asian Development Bank (Jha, 2005) points out:

...employment opportunities in rural India need to be increased....Rural employment in India has been synonymous with the employment in agriculture sector; however, with the demographic pressure on land and limited opportunity of expanding cultivated area, the role of [the]non-farm sector is becoming important.

Here again Israel’s inputs could be invaluable. It has considerable experience in weathering severe crises in the agricultural sector, and has achieved impressive success in devising innovative societal organizations to enhance the lives of the rural population and in generating additional non-agricultural sources of income – such as rural tourism, outdoor recreational activities, and boutique /cottage industries. All of these competencies would be of great practical value in helping rural India restructure for the coming decades, generating potentially lucrative commercial opportunities for both countries.

Opportunities in Some Less Conventional Aspects of the Rural Development: Another sphere which dovetails well with both the desire to upgrade the quality of life in rural areas and provide non-farm sources of employment is that of rural medicine, particularly the establishment/expansion of rural clinics. Development in this area would not only provide valuable services to the rural communities and offer additional prospects for employment (perhaps initially for less skilled positions such as in maintenance and clerical positions) and training (to fill more skilled and professional positions) for the local residents; but it would also open up opportunities for Israeli firms to equip and supply such clinics. A recent article in the *Indian Journal of Medical Ethics* entitled “Governance in Healthcare” by Bashir Mamdani focused on the administrative challenges facing health care in rural India (Mamdani, 2007). It revealed how opportunities for Israeli firms may arise in unexpected avenues. Among other things the article suggests that enhanced monitoring equipment in clinics could dramatically improve the poor work attendance of medical staff in rural areas – as it did in that case of school teachers.

Just how opportunities may emerge in areas not usually associated with rural development was highlighted in an article, “Smart Money for India’s Rural Poor”, in *Fortune* magazine (7/8/2007). In this article, the renowned economist Lord Meghnad Desai suggests that the Indian government should adopt the use of biometric “smart cards” to transfer government payments to the half a billion rural-poor rather than by the current post office system. Among other things, this could reduce “skimming” of funds by officials as they move down the distribution chain. Both ICICI Bank and Citibank are reportedly exploring this possibility, which in principle has been endorsed by Finance Minister Palaniappan Chidambaram. This example illustrates how advances in seemingly unrelated fields can be integrated into the development scheme for India’s rural sector. This is certainly true of fields like telecommunications and finance where innovative solutions to meet the demands of changing realities will undoubtedly present Israeli businesses with profitable possibilities.

Rural India: A “Roadmap” for a Development Initiative

There is little dissent among policy pundits in India that the country’s rural sector will have to undergo a far-reaching structural metamorphosis. Indeed it is acknowledged that unless such a transformation is undertaken, Indian agriculture will not only continue to be an ever-more burdensome impediment to the national economy and a increasingly detrimental drag on its development, but – and perhaps more disturbingly – a simmering crucible of social discontent, economic deprivation and political dissent which could boil over, enveloping and destabilizing much of the subcontinent.

From the preceding sections it is clear that Israel has the potential to make a significant contribution towards such strategic restructuring, and this avenue should be seriously and vigorously explored by both countries. However, it must be borne in mind that the success of such a bilateral endeavor will, in many respects, be crucially dependent on the composition of the participating teams. For to achieve tangible impact and enhance the likelihood of it being incorporated into practical policy, the members of these teams will need to be of sufficient prestige and prominence to allow them access to, and influence on, senior policy makers in both New Delhi and Jerusalem. Thus without a judicious choice of participant experts, who have the necessary stature, resolve and commitment to push for the practical implementation of their recommendations, the entire endeavor, however auspicious, astute and appropriate, is likely to remain yet another an academic exercise adorning the shelves of the libraries in sedate policy research centers and the footnotes of scholarly dissertations on international co-operation.

Bearing in mind the importance of appropriate personnel selection, the following proposal could constitute a plausible program for a collaborative bilateral strategic initiative for the development of Rural India.

Jointly Formulating/Assessing Alternative Visions of Rural India

Given the need for rural restructuring, it seems both natural and necessary that the initial stage of the joint program should comprise bilateral consultations between Indian and Israeli teams of experts aimed at arriving at an agreed vision for the optimal future structure(s) of Rural India. Such a debate would presumably involve the assessing of possible socio-economic alternatives and their suitability for implementation on a national or regional scale. Conceivable structural alternatives to replace the current untenable current rural configuration composed dominantly of smallholdings, which are often fragmented and of insufficient – and diminishing – size, might include:

- **Large Corporate Agro-Business** owned by stock holders and operated by means of a salaried workforce and/or hired subcontractors
- **Regional Cooperatives** owned collectively by farmers and operated mainly by means of pooled resources of the owners and under their direction. In Israel several such regional enterprises operate successfully in various fields of agricultural activity from the preparation of high-grade feedstuff and fodder for livestock and poultry, the extensive cultivation and harvesting of grain and fiber crops, as well as the processing , storage and marketing of various types of produce.
- **Enhanced Smallholdings** based on advanced intensive production techniques for superior yields from small production units. In this regard, Israel's moshav communities (semi co-operative villages comprising individual smallholders engaging in largely independent farming activities) could, with appropriate adjustments and modifications for local conditions, perhaps provide a useful "template" for restructuring the Indian smallholding sector. The use of advanced methods of greenhouse technology, irrigation, genetics have allowed numerous moshav farmers to attain unprecedented levels of performance in areas such horticulture, floriculture and dairy farming – with yields per hectare (or cow) far beyond that achieved by traditional agricultural practices.

Clearly, whether a single one of these configurations, or a judicious combination of two or more of them would be judged suitable, would depend strongly on prevailing conditions in specific regions being considered for implementation. This leads to the next stage.

Jointly Defining/Devising the Parameters of Transformation Process

Give the choice of an agreed target vision for a future structure(s) for Rural India, the second stage would entail the mapping of the parameters in which change would be required to effect the transformation from the present

configuration to the desired one(s). One of the main objectives of this stage would be to focus on planning the socio-economic, legal and political “infrastructure” needed to facilitate, and to induce, the planned metamorphosis of existing rural structures, systems and practices into those envisioned. Israel’s experience in propelling its agricultural sector to the forefront of development may well be instructive in this regard. For example, Israeli law prohibits the subdivision of smallholdings through inheritance and the farm unit can only be passed on to one heir. How this thorny social issue is handled may be of value in devising some form of rural land reform in India. Likewise in addressing and preparing for the social and cultural impact of, and obstacles to, the introduction of advanced technology, stringent quality control and of adapting to the inevitable necessity of non-farm employment, much could be gained from studying similar developments that took place in Israel.

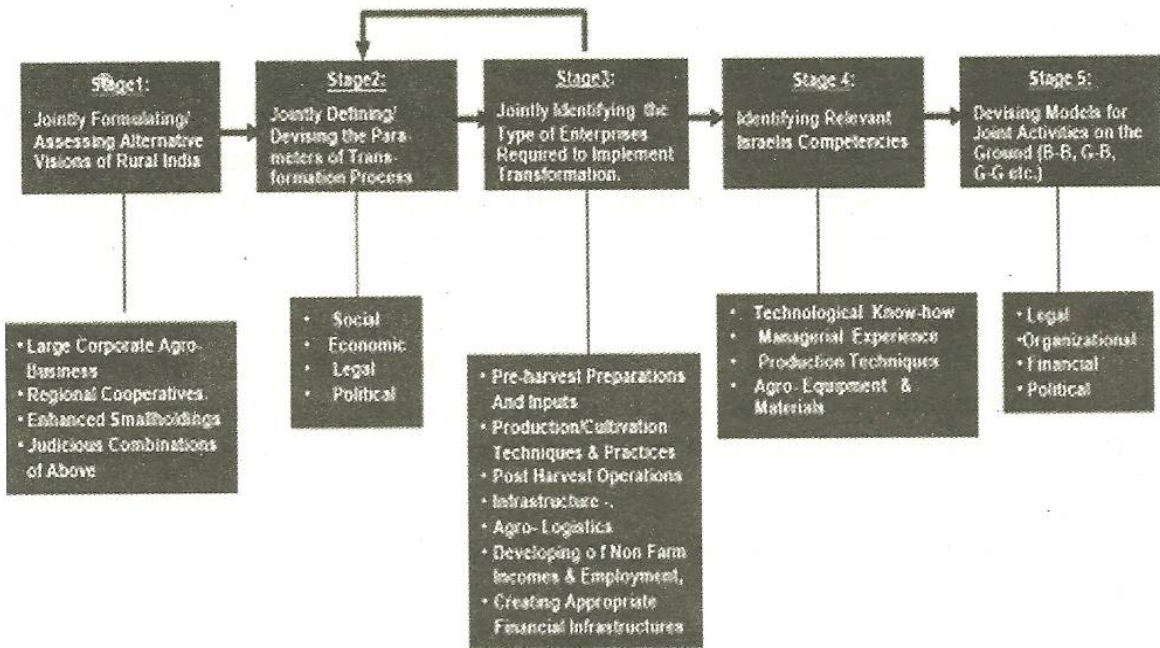
Jointly Identifying Type of Enterprises Required to Implement Transformation

The third stage would comprise identifying the areas of activities which – within the framework of the socio-economic, legal, political infrastructure delineated in Stage 2 – need to be introduced/enhanced/adapted/phased out in order to implement the prescribed restructuring of Rural India – formulated in Stage 1. These activities would embrace a wide arc, including:

- Pre-harvest preparations and inputs
- Production/cultivation techniques and practices
- Post-harvest operations such as packaging, marketing, processing
- Infrastructure – particularly transport (mainly rural roads and but also possibly railways) and communications systems to facilitate greater accessibility to markets, customers and suppliers.
- Logistics such as appropriate packing-house facilities, storage and conveyance of produce, as well as required refrigeration facilities
- Development of sources of non farm incomes and employment possibilities in such areas as rural medicine, tourism, recreation, cottage industries and so on.
- Creating appropriate financial infrastructures to facilitate the planned transformation and sustain it once achieved.

Clearly the conceptualizing of the measures stipulated in this stage, and of those in the previous one, are not detached from each other. Indeed, it may be likely that often the recommended measures in Stage 3 require prescribing some of the measures in Stage 2 – such as legal changes required to create larger production units to accommodate enhanced cultivation techniques. Thus the order of sequencing of the stages here need not necessarily correspond to their required temporal sequencing in practice – See Fig: 2.

Figure: 2



Rural India: A “Roadmap” for a Development Initiative

Identifying Relevant Israeli Competencies

The major focus of this stage would be to identify the Israeli corporations and organizations – in both the private and government sectors – with the relevant know-how and competencies to meet Indian needs, and to offer “best practices” proposals based on proven Israeli expertise and its adaptation to prevailing conditions in India. Any list of selected areas of relevance would include:

- Expertise and experience in developing and managing advanced agricultural enterprises spanning the pre-harvest, the production and the post harvest stages.
- Supply of equipment such as greenhouse components, feeding and drinking systems, computerized quality and information control, and irrigation systems.
- Provision and application of agro-inputs such as fertilizers and pesticides
- Application of Israeli experience in the development of non-farm rural employment and social restructuring.
- Establishing marketing systems for domestic and export sales.

In contrast to the generally “top-down” strategic approach adopted in the design of the initiative up to now, this stage can also incorporate a “bottom-up” tactical component. This could take the form of a more immediate problem-solving effort which in collaboration with Indian counterparts will be devoted to identifying issues of particular urgency in specific areas, and to explore ways to apply Israeli expertise and experience in effecting sorely needed solutions on the ground.

Devising Models for Joint Activities on the Ground

The final stage would be devoted to exploring optimal methods and frameworks for structuring joint bilateral operations that best utilize the potential of Indian-Israeli partnership. For example this would involve careful analysis of pertinent legal, organizational and financial parameters in the design of business models that would enable access to funds provided by international² and regional development institutions,³ and to benefits from research funds that ordinarily would be available to only one of the partner countries. On the government-to-government level, consideration should be given to establishing bilateral R&D funds, perhaps modeled along the lines of the US-Israel Bilateral Agricultural Research and Development (**BARD**) fund, which has generated agro-operations worth hundreds of millions of dollars in both countries, yielding benefits far outstripping the initial government investment. Likewise, enhancing the funding of some of the existing bilateral funds that have been established in recent years may be seen in a more favorable light if they are incorporated into a systematic and integrated initiative such the one proposed here.

However, whatever configuration(s) eventually emerge/s as the recommended format(s) for joint Indo-Israeli entities/activities – whether government-to-government, government-to-business, or business-to-business – it is clear that one principle must dominate the rationale of their structuring and *modus operandi*. This is the recognition that neither unilateralism nor altruism will sustain the partnership for long, and that its long-term success depends crucially on the benefits – whether commercial, political or strategic – that it creates for both participants over time.

Conclusion

In an article in *The Indian National Interest Review* “The India-Israel imperative,” Martin Sherman pointed to the remarkable compatibility between the aspirations of modern India and its leaders on the one hand, and the areas in which Israel has acquired exceptional expertise on the other (Sherman, 2008, p. 13). This is graphically reflected in Lal Bahadur Shastri’s dictum in praise of martial and agricultural endeavor (*Jai Jawan Jai Kisan*), and the later addendum by former Prime Minister Atal Bihari Vajpayee to include scientific – or more precisely technological – endeavor (*Jai Vigyan*).

India and Israel already have a well-developed – indeed burgeoning – relationship. in the sphere of defense and security matters (reflected by the fact that Israel is India’s second largest supplier of military merchandize) and in the sphere of technology and science (symbolized by last January’s successful launch of an Israeli satellite by an Indian rocket).

There thus could be no more opportune time than the present to turn the attention of both countries to the third element – the development of close collaborative ties devoted to advancement of agriculture and the enhancement of the lives and livelihoods of those engaged in it, and dependent on it across the

subcontinent – and to impart to the call “*Jai Kisan*” the genuine significance it merits.

Endnotes

¹ Despite problems such as small size, limited area of cultivation, scarcity of water and hot summers, the dairy cowherd in Israel has the highest milk yield per cow. The dairy cows have an annual average of 11,281 kgs. of milk and also a high level of total protein (358) and of total butterfat (404) – (Israel Cattle Breeders Association, 2006, p. 5). The highest yielding cow in Israel produced more than 18,760 kgs of milk annually in 2006 (Israel Ministry of Foreign Affairs, 2007).

This clearly compares favorably with: USA 8,875; Holland 7568; Denmark 7850 ; Germany 6761; France 6104; Australia 5210; New Zealand 3883. The figures relate to 2005 when the yield per head in Israel was 11,118. Figures for India were available for 2002 and were considerably lower at 665 kgs per annum. (World Association for Animal Production – WAAP, 2008). According to another source this rose to 750 kgs in 2003 (Murphy, 2008, p.38)

² Such as International Bank for Reconstruction and Development (IBRD), International Development Association (IDA)

³ Such as The Asian Development Bank (ADB)

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